Jul 9'48S

UNIVERSITY OF MINNESOTA RECEIVED JUL 8 1948 LIBRARY

Virginia MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

CONTENTS

Pregnancy and Diabetes. William R. Jordan, M.D, Richmond, Va. ---------- 325

Medical Practice on the Virginia Peninsula Sixty Years Ago. Chester D. Bradley, M.D., and Miriam D. Bradley, R.N., B.S., Newport News, Va. ---------- 328

Rheumatic Disease in Southwestern Virginia. R. Earle Glendy, M.D., Roanoke, Va. ---------- 334

Ocular Emergencies. William P. McGuire, M.D., Winchester, Va. ---------- 338

The False Positive Serologic Test. J. W. Love, M.D., Alexandria, Va. ---------- 341

The History—An Important Factor in Diagnosis of Coronary Thrombosis. E. L. Copley, M.D., Richmond, Va. 346

Primary Spontaneous Pneumothorax. Alfred L. Kruger, M.D., Norfolk, Va. ---------- 351

Penicillin in Cardiovascular Syphilis. Reno R. Porter, M.D., 357

Co-existence of Organic and Psychosomatic Disease—Case Report. Elizabeth M. Cover, M.D., Luray, Va. ------ 359

Country Doctor, 1947. N. H. Wooding, M.D., Halifax, Va. 361

Foreign Body—Open Safety Pin—In Esophagus of Infant—Report of Unusual Case. Porter P. Vinson, M.D., Richmond, Va. ---------- 363

Continued on page 6.

Medical Society of Virginia
Annual Meeting
Richmond, October 18-20, 1948

July, 1948

XUM

Reliance

Virginia Medical Monthly

Vol. 75, No. 7
WHOLE No. 1153

RICHMOND, VA., JULY, 1948

$2.00 A YEAR
25 CENTS A COPY

PREGNANCY AND DIABETES*

WILLIAM R. JORDAN, M.D.,
Richmond, Virginia.

The prolongation of life in the young female diabetic since the discovery of insulin has changed the problem of pregnancy in diabetics from a relatively minor one to one which is today fairly prevalent, which justifies more intensive study of this combination. White[1] estimated that there were over 100,000 prospective diabetic mothers living in the United States as long ago as 1935, and undoubtedly this figure is larger today, as evidenced by an increasing number of articles[2] reporting statistics in moderate groups of such cases rather than isolated cases, as was formerly true.

There are two aspects of the problem of pregnancy in diabetes. One concerns the mother and the other the infant. There is general agreement as to the care with respect to the mother's welfare but the cause and treatment for the high fetal mortality in the pregnant diabetic is not generally understood. White[4] feels that an imbalance of the pregnancy hormones leads to the high fetal mortality and that correction of such imbalance can be brought about by specific treatment. This paper will deal first with our observations concerning the mother, and then, in more detail, the controversial subject of the hormonal studies with respect to their value from the standpoint of prognosis of fetal survival and their effectiveness in correction of the high fetal mortality rate.

In the past seven years we have seen 33 pregnancies with diabetes in private practice and an additional case of renal glycosuria similarly studied, which we are including in this report. From the study of this group we have learned a few things.

The first is that the diabetic who is treated reasonably well is not sterile, which is quite contrary to the experience of the students of diabetes many years ago.

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

The next thing of real significance is that the diabetic mother can go through pregnancy with very little hazard to her life, no mother having died in any instance in this series. However, she requires close supervision at frequent intervals and at times urgently needs vigorous treatment to prevent death. There is no rule as to the effect of pregnancy on the diabetes, but in our experience diabetes has tended to become more severe, especially in the last third of pregnancy, as compared to the pre-gestation period. After delivery the diabetes returns to its original degree of severity.

The third thing of significance is that about the seventh month there is in some patients a marked tendency to acidosis which progresses rapidly, even with control of the sugar which ordinarily would prevent any acidosis. This has seemed more likely when salt has been omitted from the diet because of toxemia of pregnancy.

The fourth outstanding feature is that the renal threshhold for sugar may drop to a subnormal level and at times to a very low level, even to below 90 mg. of blood sugar; so that sugar is found in the urine with normal blood sugars. This entails the employment of blood sugar determinations at fairly frequent intervals and prevents our using the simple test for urine sugar as a guide to treatment.

There are other features, such as toxemia of pregnancy, which impress one, but they lie primarily in the obstetrical field and will not be discussed here.

The fifth thing, and the one which most needs to be corrected, is the fetal mortality rate. The gross fetal and neo-natal mortality in this entire series was 39%. Eliminating the cases with dead babies at the time of the first visit, we find a net mortality rate of 30%. This will be discussed separately in the section of the paper on the hormone studies. Unfortunately, the sub-divisions make

XUM

such small groups that the results are of doubtful importance for statistical purposes unless studied in conjunction with other small series.

The investigations of the Smiths[3] have led to an interesting study of pregnant diabetics by Dr. Priscilla White[4], of the Joslin clinic, who studied the blood chorionic gonadotropin and the urinary pregnandiol in pregnant diabetics. In 1946 she reported a total series of 271 pregnancies studied in the above manner with a gross mortality of 16.6%. As judged by the hormone studies, 23% of the pregnant diabetics have normal hormonal balance. Of the other 77%, who were abnormal, she left untreated a control group of 19% of the entire series. The remaining 58% who had hormonal imbalance were given corrective treatment. The fetal mortality rate in the abnormal uncorrected group was 48%; in the abnormal corrected group 12%, and in the normal group 3%. Over half the fetal mortality of the entire series was supplied by the 19% of abnormal uncorrected cases.

In our studies† we began using rats which were then available, but with the advance of the recent war, rats became unavailable and we had to experiment with rabbits. We then found rabbits advantageous because serum, rather than a blood extract, was suitable. Of more importance was the fact that the results of tests could be obtained within 48 hours instead of one week, as was true with rats. Beginning at six months of pregnancy, we take blood every two weeks for the determination of gonadotropin and receive the reports in two days. During the last six weeks of pregnancy tests are made each week. As long as the gonadotropin level remains normal, no treatment is given. If the level rises abnormally, 25 mg. of stilbestrol is given three times daily by mouth with 5 mg. of progesterone intramuscularly twice daily. Unless there is a drop to a normal level by the time of the next test, the dosage is increased to 100 mg. of diethyl stilbestrol and 15 mg. of progesterone daily. If this proves ineffective, the stilbestrol is then given in 10 mg. doses intramuscularly 4 or 5 times daily. Rarely, even more is used. The husband is taught how to give the injections in the buttocks.

The results in this series show that 8 patients had no test of the blood gonadotropin, and the mortality rate was 33 per cent. Thirteen more had normal blood levels with a mortality of 15 per cent. Seven cases had elevated blood hormone which decreased to a normal level with treatment, and all these babies lived, a mortality rate of zero. There were five cases with abnormally high gonadotropin levels which either were untreated or not adequately lowered by treatment. All these resulted in stillborns or neo-natal deaths. When one examines the results closely, one finds that not only is each group too small to be of great importance but that there are a few cases that are equivocal. One such was Case No. 1139 who had had a stillborn prior to our seeing her. She was an ideal patient and followed instructions carefully. The gonadotropin was elevated at the time of the first test and it required large doses of the hormones to reduce it to normal. The dosage was reduced then in view of the normal blood level and pain at the site of injections. The hormone then rose and was reduced to normal only the day before fetal movement stopped. This patient was treated and the hormone levels were twice restored to normal. She could be put in the group of abnormal hormones corrected by treatment, which would alter the figures considerably. However, 6 of the 12 tests showed a high level of gonadotropin and the drop to normal was so close to fetal death that she was classified as an abnormal uncorrected case.

One patient, Case No. 1594, was sent to us as a pregnant diabetic. We found, however, that she simply had renal glycosuria of several years duration. However, at her first visit to the office, since she was far along in pregnancy, we examined the blood for gonadotropin before the diagnosis of renal glycosuria was made. In view of the statistics given by Miller *et al*[2d], we felt that it was only fair to the patient to attempt to correct the hormone elevation which we found. This was done successfully and the baby survived.

When one studies the literature, he is certain to find statistics that cause confusion. Even White has amazing figures. In 1935 she[1] reported a fetal mortality rate of 15% in 66 pregnancies ending at term under the personal care of the Joslin group. This was before her use of the stilbestrol and progesterone treatment. Now, in spite of her highly successful use of the hormone in controlling her cases, she[4] reports a gross mortality rate of 16.6%

†The gonadotropin determinations on rats were run by Dr. Rolland Main at the Medical College of Virginia, and those on rabbits by the "Physicians' Service Laboratories".

in 1946. The latter series is so much larger and the former so at variance with most other reports that I am inclined to accept the present one as significant, although Mengert and Laughlin[2c] and Hurwitz and Irving[2b] reported mortality rates of 18% and 12% without the use of hormone therapy. As Eastman[2a] has stated, we must be cautious in interpreting results which are influenced so markedly by statistical errors. No other reports of statistical significance have been published on this phase of pregnancy in the diabetic, although Palmer and Barnes are using the treatment without testing the patients, and Bowen[5] reported one case with tests and treatment.

The extensive work of the Smiths[3], which has culminated in their advice to use diethyl stilbestrol from the 16th week of pregnancy to prevent accidents in late pregnancy, is supportive of the conclusions of White[4]. Our experience is such as to persuade us that there is merit in the method and that one is justified in the assertion that the study should be more extensive and that the hormonal study and treatment in the pregnant diabetic probably is of real help in saving babies.

BIBLIOGRAPHY

1. P. White: Pregnancy Complicating Diabetes. *Surg. Gyn., and Obstet.* **61**:324, 1935.
2. (a) N. J. Eastman: Diabetes Mellitus and Pregnancy. Obstet. and Gyn. Surgery, **1**:3, 1946.
   (b) D. Hurwitz and F. C. Irving: Diabetes and Pregnancy. *Am. J. M. Sc.* **194**:85, 1937.
   (c) W. F. Mengert and K. A. Laughlin: Thirty-Three Pregnancies in Diabetic Women. *Surg., Gyn., and Obstet.* **69**:615, 1939.
   (d) H. C. Miller, D. Hurwitz and K. Kuder: Fetal and Neo-natal Mortalities in Pregnancies Complicated by Diabetes Mellitus. *J.A.M.A.* **124**:271, 1944.
   (e) Lester J. Palmer and Robert H. Barnes: Pregnancy in the Diabetic. *Western J. of Surg., Gyn., and Obstet.* **53**:195, 1945.
   (f) P. White. Pregnancy Complicating Diabetes. *J.A.M.A.* **128**:181, 1945.
3. O. W. Smith, G. Van S. Smith, and D. Hurwitz: *Am. J. Obstet. and Gyn.* **51**:411, 1946.
4. P. White, In Joslin: Treatment of Diabetes Mellitus. pp. 769-784, 8th Ed., Lea & Febiger, Philadelphia, 1946.
5. B. L. Bowen: A Primipara with Diabetes and Mild Toxemia Treated Successfully with Diethyl Stilbestrol. *J.A.M.A.* **126**:98, 1944.

1631 Monument Avenue

DISCUSSION

DR. WAVERLY R. PAYNE, Newport News: Dr. Jordan has ably presented his subject, and his observations are shared by most of us who have had the experience of caring for pregnant diabetic patients. I should like to emphasize several important points from the obstetrician's viewpoint.

(1) The occurrence of this complication averages 1:276.

(2) Early diagnosis is extremely important. Any patient showing sugar in the urine before the end of the seventh month should be thoroughly studied to differentiate between normal lactose, a low renal threshold, and true diabetes.

(3) Every true diabetic should be under the close supervision of a physician competent to cope with any of the complications of that disease.

(4) Pregnancy toxemia is relatively common in diabetics, and, therefore, every precaution should be taken to guard against it.

(5) As Dr. Jordan has pointed out, fetal death in the latter several weeks occurs in at least fifteen per cent. Therefore early delivery should be considered (two weeks).

(6) The method of delivery should depend upon the obstetrical indications.

(7) The anesthetic should be preferably spinal or caudal.

(8) These babies are often large, fat, and weak, and often have hypoglycemia. Therefore glucose (sucrose) should be given immediately after birth.

(9) Close observation should be continued through the postpartum period.

I wish to thank Dr. Jordan for the privilege of discussing this most interesting subject.

MEDICAL PRACTICE ON THE VIRGINIA PENINSULA SIXTY YEARS AGO*

CHESTER D. BRADLEY, M.D.,
and
MIRIAM D. BRADLEY, R.N., B.S.,
Newport News, Virginia.

One evening in October, 1884, five doctors in the little town of Hampton formed the first medical society on the Virginia Peninsula, which they chose to call the Peninsula Medical Society because this name was the "most comprehensive in its meaning." They met in the house of Dr. Jesse H. Peek, which still stands on South King Street complete even to the carriage stepping stone engraved with the doctor's name. The Transactions of the Peninsula Medical Society covering the years 1884 to 1893 have recently come to light in the estate of the late Dr. Harry D. Howe, of Hampton, whose widow presented the volume to the Medical Library of the Dixie Hospital in that town. This record which affords an intimate glimpse into the medical world of the 1880's has led to what we believe is an interesting contribution to Virginia medical history to be mentioned later.

The ten years from 1880 to 1889 were one of the most brilliant and revolutionary epochs in the history of medicine. It was a decade illuminated by a series of dazzling bacteriological discoveries: the plasmodium of malaria, the staphylococcus, streptococcus and meningococcus, the bacilli of tuberculosis, typhoid fever and diphtheria, as well as the colon bacillus. In surgery great advances were made, such as cholecystectomy, gastroenterostomy, Saenger's new cesarean section, spinal anesthesia, and the cystoscope. Dr. John Herbert Claiborne, of Petersburg, well expressed the spirit of the times in his President's address at the 1878 meeting of the Medical Society of Virginia. He said, "The microscope, ophthalmoscope, endoscope, spectroscope, aspirator, electricity, the vivisectionists, and the organic chemists have played sad havoc with the lessons that some of us learned a quarter of a century ago[1]."

But most of these epoch-making developments were confined to the laboratories and the amphitheaters of the world's great teaching centers. It was to be a number of years before their applications could be extended to everyday medical practice. The Transactions of the Peninsula Medical Society reveal that the doctors of the Virginia Peninsula eagerly noted and discussed all these great happenings. They sensed the revolutionary changes eventually to come, but, like their medical brethren elsewhere, they had to go on with medical practice as it was. They may be compared to us of today who stand on the threshold of the atomic age. In the 1880's blistering, cupping, leeching, poulticing and purging were the mainstays of treatment[1]. Highly valued remedies were mercury for syphilis, cod liver oil for tuberculosis, belladonna for whooping cough, condurango for cancer and cold water for fever. A few of the other drugs in use were veratrum viride, arnica, rhubarb, squill and croton oil. Treatment in those days was on the energetic side, as revealed by G. F. Butler's[2] recollections in the *American Journal of Clinical Medicine*. A single case of lobar pneumonia might be treated with quinine for the fever; chloral hydrate, morphine, belladonna, hyoscyamus for the cough; senega, squill and oil of turpentine as expectorants; carbolic acid and creosote as pulmonary antiseptics; poultices and compresses to the chest, and the inevitable calomel to clean out the bowels. Diphtheria was treated by painting or spraying the throat with nitric acid, chromic acid, silver nitrate, carbolic acid, chlorine water or tincture of iron chloride, while brandy was given in large quantities for its "constitutional effects". Such, then, were the modes of treatment prevailing when the Peninsula Medical Society came into being and its Transactions must be read with this understanding in mind at all times. In 1884, diagnosis was largely by the five senses. Probably the only laboratory test done was examination of the urine for albumin and sugar. There were no hospitals on the Virginia Peninsula. Surgery was done in the patient's home on a kitchen table. Trained nurses, there were none, only midwives,

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

handy women and "grannies". Yet Hampton was the medical center of the region and our research indicates that the physicians of the Virginia Peninsula were among the foremost in the State.

George William Semple, of Hampton, led the fight in 1875 for the creation of a state medical examining board. Virginia was badly infested with licensed quacks whose only qualifications were the self-conferred title of doctor and a ten-dollar bill for the license fee. Semple was president of the Medical Society of Virginia in 1882†. He was one of the first physicians in Virginia to support the theory of bacterial infection (1880.) Dr. Henry Mazyck Clarkson[3] was a strong champion of analgesia and anesthesia to relieve the pains of childbirth in an age when these procedures were still being attacked by both physicians and clergymen with medical and religious arguments. He gave chloral hydrate in sufficient doses to cause the patient to sleep between her pains. Clarkson closed his impassioned plea in the *Virginia Medical Monthly*, January, 1886, with these words, "To pity distress is but human; to relieve it is godlike." Jesse Hope Peek had advanced ideas on sanitation and public health, as evidenced by his paper, "The Hygiene of Our Towns" (1887). He was convinced that the many "continuous fevers" afflicting the population were in reality typhoid. Peek's reason told him that the shallow wells which were "simply reservoirs for the surface water" must be swarming with the typhoid bacillus recently discovered in Germany by Eberth. He therefore strove to improve sanitary conditions in Hampton. Peek was also a member of the State Board of Medical Examiners[1]. Dr. James Thacker Boutelle, of Hampton, was a surgeon of ability who trephined at least once for traumatic epilepsy (the patient was a young man from Fox Hill). Boutelle also performed the first recorded cesarean section on the Virginia Peninsula, an achievement which will be mentioned further in the paper. Peek and Boutelle cooperated in the establishment of Dixie Hospital. This, the first civilian hospital on the Virginia Peninsula, was organized by Miss Alice Bacon, a teacher at Hampton Institute, with the cooperation of certain public-spirited citizens of Hampton. The Hampton Training School which was founded in the same year was the second training school for nurses in the State of Virginia[1].

The founding of the Peninsula Medical Society on October 14, 1884, was in keeping with the spirit of that great decade. Although George William Semple had died the previous year, we may safely assume that his influence was still present. The charter members were Jesse H. Peek, James T. Boutelle, Nathaniel Williams, Hugh F. Wallis, and George W. Marmion, all of Hampton. Hampton sixty-three years ago was the only town of size or importance on the Virginia Peninsula. Its neighbor, Newport News, today a bustling shipbuilding and seaport city, was then a sleepy hamlet of about twenty houses. It was early decided to enlarge the society by issuing honorary memberships to all physicians on the Virginia Peninsula, civilian and government both. Dr. Clarkson and Dr. L. L. Williams of the United States Quarantine Station at Old Point Comfort, also Dr. Charles Brewer of the National Soldiers Home Hospital at Kecoughtan, became members of the Peninsula Medical Society. In 1889, the two Hampton dentists, Dr. T. H. Parramore and Dr. F. W. Shield were elected to membership and for a number of months the society met in Dr. Parramore's office. Dr. Joseph Charles from the village of Newport News belonged to the Peninsula Medical Society and the young Joseph Wilton Hope of the village of Poquoson was initiated in 1891. In 1885, two "Doctresses" (women physicians) who had been nominated for membership at a previous meeting "were deemed ineligible . . . . . not having complied with the state laws."

One is gratified to note the excellent qualifications of the medical profession on the Virginia Peninsula sixty odd years ago in a day when medical educational standards were often lax. George William Semple (1810-1883) graduated from the University of Pennsylvania. He published a number of papers on medical and surgical subjects[4]. Jesse H. Peek (1852-1902) graduated from the University of Virginia. Nathaniel Williams (1845-1924) received his M.D. degree from Jefferson Medical School in Philadelphia. James T. Boutelle (1845-1913) graduated from Harvard Medical School and interned at the Massachusetts Gen-

†The first president of the Medical Society of Virginia was James McClurg who was born at Hampton in 1747. After studying medicine in Edinburgh, Paris, and London, he entered practice in Williamsburg where he remained ten years before removing to Richmond. He was elected president of the Medical Society of Virginia in 1820 (Blanton, W. B.: Medicine in Virginia in the Eighteenth Century. Richmond, 1933, Garrett & Massie, Pages 328-334).

XUM

eral Hospital. He published a number of papers in the *Boston Medical and Surgical Journal* (now the *New England Journal of Medicine*) and the *Virginia Medical Monthly*[5]. Henry M. Clarkson (1835-1915) took his M.D. degree at the University of Pennsylvania[5]. He published several papers on obstetrical subjects, and after leaving Hampton he edited a short-lived medical journal known as *The Virginia Medical Advance*[1]. Charles Selden (1833-1908) was educated at the University of Virginia. Joseph Charles (1853-1902) was a graduate of the College of Physicians and Surgeons in Baltimore, Maryland[5]. D. H. Worthington was a graduate of Rush Medical College in Chicago[5], while Joseph Wilton Hope (1865-1936), whose father and grandfather before him had been physicians in Hampton, was graduated from the Medical College of Virginia. Several other men besides Boutelle had had internships, which fact made them outstanding in those days. Semple, Peek, Nathaniel Williams, Selden and Hope were Virginians. Clarkson was a South Carolinian; Boutelle was born in Cambridge, Massachusetts, while Worthington was a native of Iowa, and Joseph Charles was a Marylander.

The meetings of the Peninsula Medical Society were held twice a month, usually in the homes of the members. In this relaxed and intimate atmosphere the early part of the evening was given over to a discussion of case histories in which opinions and advice were freely exchanged. Pathological specimens were often exhibited. The second part of the evening was devoted to a paper prepared by one of the members, which was always referred to as the "paper of the evening." After the paper had been read and roundly discussed, the members partook of food, drink and conversation. The diligent secretaries made copious notes of the discussions which filled those evenings of long ago. The impact of the new discoveries on the body of old knowledge was creating uneasiness in the minds of many physicians. This can be seen in the remarks of Jesse H. Peek, in 1889, who deplored "the tendency of the present school of medicine to ignore the old and tried remedies and to experiment with new drugs. The graduates of the present day know more about the use of agaricus and pyrotoxin than how to make a mustard plaster or how to prepare a surface for a blister . . . . . In this hurrying age," said Peek, "we had sometimes rather stop and try to digest what we had already swallowed."[2] Nathaniel Williams was of an opposite mind. At this same meeting some of the members extolled the value of heat as a remedy, which they claimed was not only palliative but in some cases actually curative. They pointed to the vapor bath in acute nephritis where the patient is seated in a chair with a vessel of water at his feet, enveloped in a blanket or sheet while red hot bricks are placed in the water to produce vapor. Williams bluntly told the group that he did not think hot water or heat alone had any curative properties, although it might be a good palliative in convulsions of children. "It is our duty," Nathaniel Williams sternly said, "to seek the causes of disease and not to try to cover up our ignorance of cause and remedy . . . . . by a little hot water here or a hot bag of sand yonder." He called attention to the recent evidence that certain diseases were caused by "bacilli, fungi or bacteria." The future of medicine, Williams thought, lay in finding the appropriate germicides for each disease.

Diphtheria and summer diarrhea were the scourges of infant and child life in the 1880's. Calomel was thought by some doctors to be almost specific for diphtheria. The treatment of summer diarrhea or cholera infantum was most unsatisfactory because its cause was not understood. Stevens' Manual of Practice, edition 1893, listed "hot weather, faulty feeding, dentition and bad hygiene" as predisposing causes[6]. As a final measure in one desperate case of summer diarrhea, Boutelle resorted to the "outdoor treatment" recommended in the medical textbooks of the time. He stopped all medicines and kept the baby under a tree by the water all day, whereupon it improved, which was not surprising since the accepted treatment of summer diarrhea included calomel and other purges. Tetanus of the newborn, which apparently was not uncommon, is referred to in the Transactions as "trismus nascentium" and "nine day fits." In all four cases reported inflammation of the umbilicus had been noted. Chloroform inhalations were recommended to alleviate the spasms and one member thought a grain of calomel on the tongue would save a large number of these cases of "nine day fits." Fevers were a frequent topic of discussion and many were the long arguments over the differential diagnosis of typhoid fever and just plain

"continued fever." On one point, however, was there general agreement, and that was treatment. The members all thought iodine and carbolic acid taken internally gave good results with these fevers regardless of the diagnosis. Among the therapeutic sensations of the 1880's were antipyrin and acetanilid. In an age where it was the tendency to consider fever more or less as a disease in itself these drugs were hailed with enthusiasm because they would reduce fever as well as alleviate pain. It was claimed that antipyrin and acetanilid cured such varied conditions as otitis media, intractable hiccough, delirium tremens, insomnia, typhoid fever, pneumonia and epilepsy. The Peninsula Medical Society went through this wave of enthusiasm like the medical profession elsewhere and each member was asked to write out his experiences with these drugs for discussion.

Eclampsia was treated by sedation. Charles Selden, called to a woman in labor aboard a ship in Hampton Roads who had had thirty-eight convulsions, gave two-thirds grain of morphine after which there was only one more convulsion. Hugh F. Wallis, after treating a case of eclampsia with chloral hydrate, potassium bromide, veratrum viride and bleeding, gave two-thirds grain of morphine, whereupon the convulsions stopped. The Transactions reveal plainly that obstetrics in those days was no field for a doctor with weak nerves or a weak back. High forceps operations, craniotomies, eviscerations, and dismemberment of the fetus were not uncommon. All too often the mother was lost along with the infant. Cesarean section was considered to be even more dangerous than craniotomy and was resorted to only when the birth canal was too narrow to permit the breaking up and removal of the fetus by piecemeal through the vagina. Leishman's Midwifery, edition 1879, gave the maternal mortality for cesarean section as at least eighty-five per cent. This same authority stated " . . . we are driven to this last resource (cesarean section) whenever we recognize the fact that the fetus, however mutilated, cannot be extracted by the pelvic canal"[7].

In the winter of 1879 James T. Boutelle[8], of Hampton, was called to see a young Negro woman who had been in labor several days. The membranes had ruptured early in labor. A midwife was in attendance. Boutelle found the pelvis to be markedly contracted and the mucous membranes of the vagina thickened and criss-crossed by fibrous ridges which were so firm they felt like cartilage. A large vesico-vaginal fistula was present. Five or six years before, this same woman had been delivered by craniotomy after a labor of eight days. The house was small, poorly built, the room very cold with a small open fireplace as the only means of heat. "A number of colored women were present besides the girl's mother and the midwife . . . " Boutelle called in consultation the venerable George William Semple and Jesse H. Peek. In deference to the wishes of the patient and her family it was decided to attempt forceps delivery before resorting to a more desperate procedure. With Peek giving chloroform, Boutelle applied forceps to the fetal head but was unable to pull it down. The three doctors then decided that because craniotomy and dismemberment of the fetus would probably cause fatal injury to the mother, there was no recourse except cesarean section. Boutelle then did a cesarean section, delivering a baby which breathed only a few times despite efforts to resuscitate. The uterus failed to contract and bleeding was profuse. Boutelle put a large piece of ice in the uterus, according to the method of Sir Spencer Wells, and gave a hypodermic injection of fluid extract of ergot. The uterus contracted some but the blood continued to pour forth furiously. Finally Boutelle passed three silk sutures through the edges of the uterine incision firmly closing the wound. He then placed a piece of ice in the vagina and compressed the uterus with his hand whereupon the bleeding ceased. He closed the abdominal incision except for the lower inch and one-half where he brought out the ends of the sutures and inserted a drain. The patient recovered from the anesthetic and the three doctors left the house much encouraged. However, the evening of that same day, the patient began to cough, spit blood, became cold, rolled from side to side and soon died. It was not possible to obtain an autopsy.

The essential point of interest in this account is that Boutelle closed the uterine incision with sutures. Astounding as it seems today, it was not the approved practice in Boutelle's day to suture the uterine wound in cesarean section. The incision was left open as a result of which blood and lochia drained freely into the abdominal cavity. Leishman's Midwifery, edition 1879, stated, "It is quite certain that this (suture of the uterine wound) is not essential to success and it is doubtful . . .

whether or not it is in any way beneficial[7]." Thomas Radford, of Manchester, England, the great champion of cesarean section, declared in 1880, " . . . sutures ought not to be introduced into the uterine walls, and indeed, I think they would prove in general not only useless, but by the uterine tissue yielding they would be injurious[9]." Rodenstein, who sutured the uterus in a cesarean section which he was asked to close, relates that, when his chief returned on the third post-operative day, he indignantly reopened the abdomen and removed the sutures from the woman's uterus. Cesarean section was practiced on living women for over two hundred and fifty years before anyone had the courage to insert sutures in the uterine wound. Lebas of France (1769) was the first; then Barlow of England (1817); Weigel of Germany (1838), and Godfroy of France (1840). After the middle of the last century an occasional courageous operator in this country and Europe would dare to suture the uterine wound despite ridicule and condemnation. In the United States may be cited Polin (1852), Brickell (1867), Townsend (1867), Foster (1870), and Rodenstein (1871). The turning point came only in 1882 when Max Saenger, of the University of Leipzig, Germany, developed and popularized a method of uterine suture which revolutionized the operation of cesarean section, making it a relatively safe procedure[9].

James T. Boutelle of the Virginia Peninsula who sutured the uterine incision on January 20, 1879, was one of the pioneers in the advance of surgery. In his case report in the *Virginia Medical Monthly,* August, 1879, he said, "I used three silk sutures to stop the hemorrhage and the chances of its recurrence would have been less if I had used twice as many." Boutelle also stated, "It was not the severity of the operation (cesarean section) but the lateness of its performance which caused the fatal result. The advocates of the operation claim . . . . that it is not of itself severe enough to justify the mortality which attends it. They insist upon the necessity of operating early. I have no doubt that the mortality would be greatly diminished if this rule could be carried out." Boutelle was a bold, resourceful and skillful surgeon. Boutelle was a daring innovator, for he placed three sutures in the uterine wound and afterward declared he should have placed twice that number. Boutelle was a man of prophetic vision, for he foresaw that if the operation could be done early instead of late and if the uterine wound were closed by sutures, then the deadly cesarean section might become a beneficent and life-saving procedure.

BIBLIOGRAPHY

1. Blanton, W. B.: Medicine in Virginia in the Nineteenth Century. Richmond, 1933, Garrett & Massie.
2. Butler, G. F.: Changes in Therapeutics During the Past Quarter of a Century. *Am. J. Clin. M.* **25**: 16-23, 1918.
3. Clarkson, H. M.: Chloroform and Chloral in Obstetrics. *Va. Med. Mo.* **13**:680-689, 1886.
4. Atkinson, W. B.: Physicians and Surgeons of the United States. Philadelphia, 1878, C. Robson. Pages 467-468.
5. Transactions of the Medical Society of Virginia, 1900.
6. Stevens, A. A.: Manual of the Practice of Medicine. Philadelphia, 1893, W. B. Saunders, Page 56.
7. Leishman, W.: System of Midwifery. Philadelphia, 1879, Henry C. Lea, Pages 528-535.
8. Boutelle, J. T.: A Case of Caesarean Section. *Va. Med. Mo.* **6**:370-374, August, 1879.
9. Young, J. H.: Caesarean Section; the History and Development of the Operation from Earliest Times. London, 1944, H. K. Lewis & Co.

DISCUSSION

DR. M. P. RUCKER, Richmond: The authors have made good use of recently discovered source material and have given us an interesting picture of medicine 60 years ago. It was in a similar society in Boston in 1843 that Oliver Wendell Holmes read his famous essay on the Contagiousness of Puerperal Fever. In Boston they called their group the Society for Medical Improvement, a very good name, for these small societies that meet around in the members' homes are potent factors in the improvement of the practice of medicine. They make for cooperation among the local doctors instead of the usual jealousies. The discussions are usually informal and every one present takes part or asks questions. If the society has good secretaries, as evidently the Peninsula Medical Society did, medical historians will be thankful.

I was especially interested in what the authors have to say about obstetrics, for this is an important period in the history of obstetrics. As Dr. Bradley says, anesthesia was just coming into general use, although it had been more than thirty years since Long had used it in his wife's confinement (1845) and Channing had published his treatise upon etherization in childbirth (1848). Doctors were beginning to study their patients more carefully and were beginning to use instruments in their examinations. At the re-organization meeting of the Medical Society of Virginia in 1870, while the committee was out working on the constitution and by-laws, Dr. Wm. A. Gillespie, of Louisa County, exhibited a modification of his own invention of the duck-bill speculum. Subsequent minutes of the Society offer further evidence that Virginia doctors were obstetrically and gynecologically minded.

Dr. Boutelle's cesarean section is important. W. H. Harris was able to collect some 15 such cases in which sutures were used in the uterus. The first of these and the third in the world's literature was performed in 1828 at Occoquan, Va., by a charlatan whose name is unknown today. It was reported by Dr. Weems, of Fairfax, who witnessed the operation. There is some doubt as to whether it was a true cesarean section, for the patient was somewhat over-due and the "uterine wall" was said to contain calcareous matter. It may well have been a sac of an abdominal pregnancy. On the other hand, no mention is made of any difficulty with the placenta. At any rate, the operator put 3 sutures in what was called the uterine wall. According to Eastman, these early American cesarean sections with sutures in the uterus had great influence upon Sänger's standardizing the technic for the classic operation. So Dr. Boutelle played a part in world medicine.

New Philosophy on Hair.

The man with the receding hairline and balding pate can console himself with the thought that the hair he has lost wasn't good for much to begin with, according to an article in the current issue of *Hygeia,* the health magazine of the A.M.A.

Miss J. V. Sheppard, Oak Ridge, Tenn., author of the article, says that hair has little practical use and, so far as is known, it does not receive nourishment from the body.

Those who bemoan their paucity of hair as indicative of a lack of manliness may also take solace from Miss Sheppard, who says that the notion that a lot of hair in men expresses physical strength or virility is ancient superstition. The cure of baldness, she says, depends largely on the cause. If it is the senile type, which results from the deterioration of all body cells, there is no hope of restoring the hair. The outlook is also dark for premature baldness, most of which is inherited and for which, according to the article, "there is no hope" of cure. For baldness due to the presence of microbes in the scalp, little can be done to restore the lost hair, but early treatment under the advice of a physician can do much to prevent further loss.

As a solution of the problem of the depleted pate, the writer suggests that we concentrate not so much on cures for baldness, but on establishing "a new philosophy of hair" in which its cosmetic importance is played down much more than at present.

And, oh yes, if you have nothing to do on a rainy day, Miss Sheppard suggests that you try to count the hairs on your head, if any. If you're a blond, you'll find you have around 140,000, while if you're a brunette, you'll average only about 100,000.

Surgery on "Blue Babies".

"Tremendous improvement" in the condition of 39 children who underwent heart surgery to relieve the so-called "blue baby" condition is reported by Willis J. Potts, M.D., and Stanley Gibson, M.D., of Children's Memorial Hospital, Chicago.

Writing in the current issue of *J.A.M.A.,* they say that "of 41 patients who have survived surgery, 39 have been tremendously improved; i.e., they are relieved of cyanosis [bluish complexion], have gained weight and are able to live fairly normal lives."

The operation described by Drs. Potts and Gibson is designed to increase the oxygenation of the blood stream by increasing circulation through the heart.

As described by Drs. Potts and Gibson in the current issue of *The Journal,* the procedure remains substantially the same as that first outlined in the Nov. 16, 1946 issue, except for "slight modifications in technic" and "clarification of misunderstood points."

XUM

RHEUMATIC DISEASES IN SOUTHWESTERN VIRGINIA*

R. EARLE GLENDY, M.D.,
Roanoke, Virginia.

INTRODUCTION

Before Herrick's classic description of coronary thrombosis in 1912 and the subsequent correlation between the clinical and pathological findings this condition presented no particular problem to the medical profession as such because it did not exist in their minds as a clear clinical entity. Likewise, rheumatic infection, though absorbing the attention of clinicians for many decades, has been until recent years too often regarded as a self-limited disease requiring no special care beyond its acute stage and has not occupied an important place in the clinical consciousness of the profession at large. The acute or fulminant forms present a familiar pattern but we know now that rheumatic infection can in fact be one of the most chronic of all diseases, grumbling along without clearcut symptoms unnoticed by the patient, parents or physician, either initially or following an acute attack, and requiring every diagnostic aid at our command for its detection. Rheumatic disease, and what is more the cardiac cripples that are left in its wake, constitutes a *real* problem here in Southwest Virginia. The purpose of this presentation will be to emphasize the gravity of the problem and the necessity for *early* diagnosis and *sound* management as preventive measures against cardiac invalidism in later life.

INCIDENCE

In numerous studies relating to the absolute and relative incidence of rheumatic infection and rheumatic heart disease the circumstances under which the data are collected and tabulated necessarily varies with the material available. Statistical values based on hospital admissions (medical and/or pediatric) are not closely comparable with those derived from observations on private patients. School and community studies add further difficulties in correlation, not to mention the lack of uniformity in the criteria used for the selection of cases. Nevertheless, admitting that the figures are often inadequate and of limited value, it is only through an accumulation of data from many sources and localities that the magnitude of the problem can be established.

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

The material in the present report is based upon an analysis of 1000 medical patients of all ages seen in private practice during the past two years (Dec. 1, 1945, to Oct. 4, 1947), 636 of which had some presenting cardiac sign or symptom. The remaining 364 cases were non-cardiac. Out of the total of 636 patients with cardiac signs or symptoms there were 200 in whom no structural disease was demonstrable, this number including possible and potential heart disease, cardiac neurosis, neurocirculatory asthenia, and reflex disturbances of heart action. The remaining 436 cases of organic heart disease of various etiological types comprise the number on which the relative incidence of rheumatic heart disease is based in this study.

TABLE I

Relative Incidence of Rheumatic Heart Disease Among 436 Cases of Organic Heart Disease of Various Etiological Types out of a Total of 636 Patients with Cardiac Signs or Symptoms. Southwestern Virginia. Percentages include both "Pure" and "Combined" Types.

	Percentage
Congenital Anomalies	2.1
Infections	
Rheumatic	13.8
Subacute Bacterial Endocarditis	0.2
Acute Bacterial Endocarditis	0.2
C-V Syphilis	0.0
Others, including Diph., Tbc., etc.	0.2
Thyrotoxicosis	1.6
Hypertension	
Systemic, Hyperpiesia	49.8
Pulmonary, Cor Pulmonale	1.8
Coronary Atherosclerosis, including A. P.	45.0
Misc. Toxic States, Deficiency States, Trauma, etc.	5.7
Unknown or Uncertain	3.4
Patients with Cardiac Signs or Symptoms but without Demonstrable Structural Disease, Including Possible and Potential Heart Disease, Cardiac Neurosis, N.C.A., and Reflex Disturbances	31.4

Table I shows the relative incidence of rheumatic heart disease to be 13.8 per cent in Southwestern Virginia. When one compares this figure with statistical values from various localities in the United States (see Table I-A it occupies an intermediate position, but a sufficiently formidable one to point to rheumatic disease as a problem of considerable magnitude in this region. The values obtained in this analysis have been influenced by

TABLE 1-A

RELATIVE INCIDENCE OF RHEUMATIC HEART DISEASE IN VARIOUS LOCALITIES

	Percentage
New England	30.0
New York	25.5
San Francisco	22.2
Pacific Northwest	20.0
Tennessee	15.3
Southwest Virginia	13.8
Texas	10.4
Washington, D. C.	7.2

the age groups under consideration (mostly adults) and the social and economic status of individual patients, which, for the most part, has been above the average clinic patient. With the inclusion of more pediatric and clinic patients with organic heart disease the incidence would be, in all likelihood, appreciably higher. The incidence of congenital anomolies, 2.1 per cent, conforms to the usually reported frequency of these conditions[1]. I have no explanation for the zero incidence of cardiovascular syphilis beyond the fact that no more than 2 per cent of the cases were colored. Thyrotoxic heart disease occurred in about the same frequency, 1.6 per cent, as is reported in numerous other tabulations of this kind. The two most common and serious types of heart disease, hypertensive and coronary, ran true to form with relative frequencies of 49.8 per cent and 45 per cent respectively, with considerable overlapping of the two types. Cor pulmonale was encountered in less than 2 per cent of the cases. Miscellaneous conditions such as myxedema, dietary deficiency, toxic states and trauma are more frequently recognized now as etiological factors in heart disease, and 5.7 per cent of the cases fell into this category. Despite the many advances in our knowledge of heart disease we must still leave space in our classification for those of unknown or uncertain etiology, of which there are 3.4 per cent in this group. It is noteworthy under the final tabulation in Table I that nearly one-third of the patients who present themselves with cardiac signs of symptoms have no demonstrable structural heart disease. Included in this group are 10 patients, mostly children, with recent or remote rheumatic infection but in whom no organic heart disease could be demonstrated. These cases have been added to those with structural rheumatic heart disease and analyzed separately as to age, race and sex incidence, joint manifestations, extent of valvular involvement, and other factors which influence rheumatic disease.

Table II shows a slightly more frequent incidence of rheumatic heart disease in males than females in this series, but statistical analysis usually

TABLE II

RACE,* AGE AND SEX INCIDENCE IN 70 CASES OF RHEUMATIC DISEASE INCLUDING ACUTE AND RECURRENT RHEUMATIC FEVER, RHEUMATIC HEART DISEASE AND CHOREA (SOUTHEASTERN VIRGINIA)

Decade	*Male*	*Female*	*Totals*
0-9	2	3	5
10-19	2	4	6
20-29	7	6	13
30-39	6	7	13
40-49	8	6	14
50-59	8	6	14
60-69	3	2	5
	36	34	70

*69 White, 1 colored.

shows a more frequent incidence in females in the ratio of about 4 to 3 or 5 to 4. The pre-dominance of cases in the 3rd, 4th, 5th, and 6th decades is explainable for two reasons; first, the paucity of children seen, and, secondly, the fact that the majority had chronic rheumatic heart disease. Furthermore, five cases, all over 50, who are thought to have calcific aortic valve disease have been included in this group on the basis of recent studies by Karsner and Koletsky[2], in which they report that such lesions are in the majority of instances on an inflammatory basis, chiefly rheumatic. Calcific aortic valve disease occurring in patients past 70 has not been included here because, as a rule, the dominant heart disease is non-valvular and the valvular changes are more likely to be on a sclerotic basis. No conclusions can be drawn regarding the race incidence since there was only one negro in the entire group. With few exceptions all of the patients have lived most of their lives within a radius of 100 miles of Roanoke, Virginia, which lies in latitude 37°, 15 min. N., at an altitude of 945 feet with neighboring mountainous areas as high as 3960 feet, and where the average year round temperature and humidity are 56.6° F. and 67 per cent respectively.

CLINICAL MANIFESTATIONS

The incidence of arthritis, 69 per cent (see Table III) among 58 patients in this series, though somewhat lower, roughly parallels that reported by Hart, Wood and Daughton[3] (79 per cent) for the Piedmont section of Virginia except for the frequency of initial attacks. These same authors quote an incidence of only 34 per cent rheumatic

TABLE III

JOINT MANIFESTATIONS IN RHEUMATIC DISEASE—58 CASES—SOUTHWESTERN VIRGINIA

	No. Cases	*% of Total*
Arthritis, Total	40	68.9
Arthritis at 1st Visit	15	25.8
Initial Attack	3	5.2
Recurrent Attack	12	20.6
Arthritis, History Only	25	43.0
Single Attack	15	25.8
Recurrent Attack	10	17.2
Total Single Attacks	18	31.1
Rheumatic Disease, no Evidence of Arthritis	18	31.1

arthritis for Tidewater Virginia, with the frequency of heart disease remaining fairly high. They state that an apparently low incidence of rheumatic arthritis need not mean an equally low frequency of rheumatic heart disease. The severity of the valvular manifestations in this series among those patients in which there was no evidence of arthritis (31 per cent) was as great as in those with arthritis.

The incidence of arthritis (69 per cent) obtained in this study also parallels the frequency with which a definite history of rheumatic fever or "rheumatic infection" can be found on careful investigation. Four per cent of 51 cases gave a history of chorea without rheumatism. One-third of the patients who gave no history of rheumatic arthritis did give a history of scarlet fever. Those with and without tonsils were about equally divided and two-thirds of each gave a history of tonsillar infection, but no conclusions could be drawn as to the role of tonsillitis in the development of valvular heart disease. Electrocardiographic abnormalities were present in 55 per cent of 63 cases on which tracings were made.

It is probable that in every case of rheumatic infection there is some heart disease, however slight or transient, but in some there is not sufficient deformity of the valves to produce abnormal signs. Out of a total of 70 cases of rheumatic disease in this series there were 60 (85.7 per cent) who had demonstrable valvular disease. The various types of valvular disease encountered are indicated in Table IV and will attest to the severity of cardiac involvement of the rheumatic type that occurs in this locality. Of the remaining 10 cases, 3 have questionable valvular heart disease and 7 have at one time or another had active rheumatic carditis as manifested by clinical and/or electrocardiographic findings. Thirteen (18.5 per cent) of the

TABLE IV

INVOLVEMENT OF THE HEART VALVES IN 70 CASES OF RHEUMATIC DISEASE—SOUTHWESTERN VIRGINIA

	No. Cases	*Percentage*
Valvular Heart Disease	60	85.7
Mitral Stenosis and/or Insufficiency	29	41.2
Aortic Disease Alone	15	21.3
Aortic Regurgitation	5	7.1
Aortic Stenosis	5	7.1
Aortic Regurgitation and Stenosis	5	7.1
Mitral and Aortic Disease	16	22.7
Total Mitral Disease	45	63.9
Total Aortic Disease	31	44.0

entire group with rheumatic disease had overlapping etiological types of heart disease which might be anticipated in the age groups under consideration.

COMMENT

Clinical impressions that are the result of experience are cherished by us all and tenaciously clung to, but accurate clinical impressions, which by the way, are rare, depend upon accurate painstaking observation, and unless we look with care for obscure signs and symptoms we seldom find them. No better illustration of this can be given than the case finding methods used by all health departments in the detection of tuberculosis. The clinical impression that rheumatic disease is uncommon or rare and relatively mild in Southwest Virginia is entirely erroneous. The relative incidence of rheumatic heart disease in this series (13.8 per cent) indicates its frequency and the degree of serious valvular damage (Table IV)gives testimony to the end-result no matter how mild the initial infection may or may not have been. Camp and Galvin[4], at the meeting of this Society last year, presented cases illustrating the fact that we do see in Virginia very severe and even fatal cases of rheumatic fever and pancarditis. In this present study there is one child, age 10, who falls into this category and among other things has acute glomerulonephritis which has long borne an implied association with rheumatic disease. Whether this is a true rheumatic manifestation remains to be seen, but nephritis does occur concurrently with acute rheumatic fever with variable frequency. Reich[5] has recently observed that, although rheumatic fever is more prevalent in Northern climates, there is a much greater percentage of atypical forms in Southern areas which present difficulties in diagnosis. To illustrate its protean character, he lists unusual manifestations involving nearly every body sys-

tem. We must, therefore, resort to careful consideration of all obscure fevers and atypical visceral and joint manifestations with the possibility of rheumatic fever in mind, but avoiding the prejudicial view that all obscure febrile illnesses are rheumatic. By using every available method of examination for the detection of active infection (temperature, pulse, white blood count, sedimentation rate, frequent cardiac examinations, electrocardiogram, chest x-ray, wt. record) earlier diagnosis can be made and crippling deformities of the heart prevented. It is wise to continue salicylates even after the subsidence of acute rheumatic fever, for many believe that by so doing exacerbations and prolonged convalescent periods may be avoided. Parents must be impressed with the necessity of prolonged bed rest and sanitorium-like care as long as one vestige of evidence of active infection remains.

SUMMARY

An analysis of 436 cases of organic heart disease of various etiological types among 636 patients with cardiac signs or symptoms seen in private practice shows the relative incidence of rheumatic heart disease to be 13.8 per cent in Southwestern Virginia, a figure that is intermediate in position between Northern and Southern areas of the United States. Age and sex incidence and various clinical manifestations of rheumatic disease are discussed. Cardiac involvement of a serious and permanent nature was observed in a high percentage of cases. One may conclude from this study that rheumatic disease in Southwestern Virginia is neither uncommon nor mild, at least in its end-results.

820 S. Jefferson Street

REFERENCES

1. White, P. D.: Heart Disease, 3rd Edition, 1944, The Macmillan Company, New York, P. 260.
2. Karsner, H. T., and Koletsky, S.: Calcific Disease of the Aortic Valve, 1947, J. B. Lippincott Company, Philadelphia.
3. Hart, A. D., Wood, J. E., and Daughton, A. D.: Rheumatic Fever in Piedmont Virginia—I. Incidence and Clinical Manifestations. *Am. J. Med. Sc.* **187**:352, 1934.
4. Camp, P. D., and Galvin, L.: Severe and Fatal Rheumatic Fever with Pancarditis in Virginia. *Va. Med. Monthly* **74**:304, 1947.
5. Reich, N. E.: Protean Manifestations of Acute Rheumatic Fever. *Amer. Pract.* **1**:645, 1947.

DISCUSSION

DR. WILLIAM M. MOIR, Roanoke: There are several points in connection with the subject just presented that I should like to emphasize briefly, if I may.

As Dr. Glendy points out, rheumatic fever is neither uncommon nor mild in Southwestern Virginia; and, because of this and of the serious consequences that may follow, it is obviously very important that the diagnosis not be missed. Cases may be missed, however, if the threshold of suspicion is not low, because of the relatively high incidence of atypical cases and because, typically, even the initial manifestations may be so varied and non-specific. For example, the pallor, toxemia, fever, tachycardia, anorexia, weight-loss and general malaise that may be our initial clues accompany many other severe systemic diseases and always necessitate careful evaluation.

This brings us to one of the points that should be emphasized, namely, that rheumatic fever is a generalized, systemic disease which may involve connective tissue throughout the body and that it does not necessarily confine itself to involvement of the joints or of the heart alone. To cite some well known examples we may have acute abdominal pain, simulating appendicitis and requiring very careful differentiation, as evidence of rheumatic peritonitis; or we may have rheumatic pleurisy with the characteristic sharp, stabbing chest pain on inspiration and later the accumulation of fluid in the pleural cavity; or we may find the subcutaneous nodules of such serious prognostic import because they may be indicative of widespread involvement; and there may be cutaneous manifestations, of which various types of erythema multiforme are probably the most common example.

While typically, in rheumatic arthritis, the joints most subject to stress and strain are affected first, in migratory fashion, the much rarer atypical mon-articular rheumatic arthritis must not be lost sight of. In this latter type we have involvement of single joints, such as the ankle, simulating a sprain; or of one or both sacro-iliac joints, causing low-back pain; or, indeed, any other joint in the body.

Incidentally, the difficulties attending diagnosis in a disease in which the manifestations may be so protean may in part, at least, account for the fact that not infrequently in this area we see patients with involvement of both the mitral and aortic valves but who give no history of having had rheumatic fever.

And, finally, I should like to point out that, important as it is not to miss atypical cases of rheumatic fever, it is perhaps equally important, again for obvious reasons, that careful evaluation and follow-up be made in doubtful instances in order to avoid pinning upon an individual an erroneous diagnosis of rheumatic fever, with all its attending restrictions and prognostic implications.

XUM

OCULAR EMERGENCIES*

WILLIAM P. MCGUIRE, M.D.,
Winchester, Virginia.

In presenting a paper before a general meeting of this kind anyone engaging in one of the medical specialties, and more particularly the ophthalmologist, is faced with the problem of choosing a subject which may prove to be of general interest rather than some highly specialized topic in his own field of endeavor. For this reason I have thought that the subject of Ocular Emergencies might be of interest and possibly of some value. Every physician, no matter whether a general practitioner or specialist, will at some time have patients with various eye complaints.

Foreign material in the eyes is probably the most common complaint of those seeking medical advice because of an acute eye condition. Small foreign bodies frequently lodge somewhere in the conjunctival sac or in the cornea. When this occurs the predominant symptom is pain or a scratchy sensation in the eye, the severity of the symptoms depending upon the location of the foreign body. In searching for such foreign bodies a good light is essential and the simplest is that produced by an ordinary condensing lens which will focus the light from an incandescent lamp on the eye. If the foreign body is found either on the upper or lower palpebral conjunctiva, or on the bulbar conjunctiva, it can usually be removed very easily with a toothpick swab. In the case of conjunctival foreign bodies generally no anesthetic is necessary. However, if the object has become embedded in the cornea a local anesthetic is necessary before removal is attempted. For this I have found a ½% solution of pontocaine hydrochloride to be ideal, three drops being instilled at intervals of about thirty seconds. A corneal foreign body should never be removed or an attempt made at removal with a cotton swab. This only denudes the cornea of a portion of its epithelium and tends to push the foreign body deeper into the corneal stroma. Any one of a number of sharp foreign body spuds may be used and if these are not available a 22 gauge intravenous needle attached to a syringe for a handle will serve very well. The spud or needle should be inserted just to one side of the foreign body and then worked below it. In this way the foreign body can be lifted out with a minimum of corneal damage.

Following the removal of a corneal foreign body the follow-up treatment must be directed to giving the patient comfort and promoting healing. In the past an anesthetic ointment was instilled and a firm adhesive dressing immobilizing the lids was applied. Recently, however, I have been giving these patients treatment consisting of hourly instillations of 30% sodium sulfacetimide solution with ½% pontocaine being instilled whenever pain recurred. At the end of two days the cornea should be checked to be sure that no ulceration has occurred. This can be determined by instilling one drop of a 2% fluorescein solution in the conjunctival sac and then washing it out with boric acid or normal saline. If any ulceration is present a bright green stain will be seen in the area.

In industrial areas chemical burns of the eye are moderately prevalent and present a real problem. Because of the late complications in these cases it is wiser to refer them to an ophthalmologist after immediate first aid has been given. This should consist of thorough and copious washing of the conjunctival sac with water and then sending the patient to the eye man without delay. Chemical injuries to the eyes are usually not alarming when first seen but in a period of three or four days the damage becomes more apparent, and at times appalling. A word of caution should be interjected at this point in regard to lime burns of the eye. If the foreign material is unslaked lime no solution of any kind should be instilled until the physician has carefully inspected the entire conjunctival sac, including the fornices, for the presence of particles of lime. If found these should be removed with cotton swabs before any liquid touches the eye. This procedure will be painful but it saves eyes. If unslaked lime is present and water or any other liquid touches it, it will become slaked and the burn will be much worse.

In the case of perforating injury of the globe the immediate demand is for both local and general rest. Atropine sulphate 2% or 3% should be in-

*Read at the meeting of the Medical Society of Northern Virginia, December 9, 1947.

stilled immediately and the patient sent to the hospital, preferably by ambulance. The loss of intraocular contents through muscular activity in these cases can be severely damaging. In addition to this danger the patient should be hospitalized for X-rays of the eye to determine if a retained intraocular foreign body is present so that, if feasible, it can be removed. Many intraocular foreign bodies seem to have a predilection for damaging the ciliary body, leading to a prolonged cyclitis and possibly to a sympathetic inflammation of the other eye some weeks after the injury.

Among the other reasons for which a patient may present himself to a physician is an acutely inflamed eye. This, of course, may be the result of a conjunctival or corneal foreign body as has been mentioned. Having ruled out the presence of a foreign particle there are three conditions which it is important to differentiate. These are acute conjunctivitis, acute iritis, and acute glaucoma. The treatment of the three conditions is, of course, markedly different and the therapy indicated for one is absolutely contraindicated in the others. In acute conjunctivitis there is burning and a scratching sensation in the eye; the vision is not affected; there is marked secretion; the inflammation is more marked in the fornices and fades out toward the limbus; the vessels are large and tortuous; the injection blanches upon the instillation of 1:1,000 adrenalin; the pupil and iris are normal; the cornea is clear; and the tactile tension is normal. In acute iritis the pain is moderate and deep seated in the eye; there is some blurring of vision; there is no secretion; the inflammation is more marked toward the limbus and fades out toward the fornices; the vessels are small and straight and adrenalin has no effect on the inflammation; the pupil is generally small and reacts poorly; the iris is discolored and muddy in appearance; the cornea is clear with the exception of occasional posterior corneal deposits; and the tactile tension is normal. In acute glaucoma the pain is severe, deep and radiating to the temple; the vision is foggy; the inflammation is general; the pupil is semi-dilated and fixed; the iris may appear edematous; the cornea is hazy due to edema of the epithelium; and the tactile tension is elevated markedly. The pain in acute glaucoma is generally one of the most severe that we encounter. I have had one patient who was unfortunate enough to have suffered attacks of acute kidney colic and acute glaucoma. He tells me that the pain of kidney colic is child's play when compared with that of glaucoma.

The treatment of the three preceding conditions differs in each. Conjunctivitis may be treated by the sulfonamides and by astringent solutions, iritis requires a cycloplegic in the form of atropine to dilate the pupil and put the ciliary body and iris at rest, while acute glaucoma generally requires operative intervention before the condition is finally relieved. It is especially important to differentiate between the latter two conditions for the instillation of atropine in a glaucomatous eye may well be disastrous.

Sudden loss of vision is a distressing occurrence to anyone and the general practitioner may well be the first physician to see one of these patients. There may not be a total loss of vision in the affected eye but merely a sudden field defect. In many cases this has been present for some time before being discovered, the patient finally noticing the defect when for some reason he has closed the unaffected eye. The most common causes for such catastrophies are detachment of the retina, thrombosis of the central retinal vein or a portion thereof, occlusion of the central retinal artery, hemorrhages in the retina or in the optic nerve sheath or along the optic radiations, and intraocular inflammation such as central chorioretinitis. Slower, but progressive, loss of vision occurs with corneal dystrophies, cataract, chronic glaucoma, intraocular tumors, optic neuritis and retrobullar neuritis, pituitary and other intracranial tumors, central nervous system syphilis, and occasionally the leukemias. While the history and the general physical examination may give a good lead as to the etiology of these conditions, they are so serious, and the immediate treatment of some of them is so urgent, that I feel they should be referred to a competent ophthalmologist on an emergency basis as soon as possible.

In the repair of lid lacerations there are two points which I think should be brought out. If there is a horizontal laceration of the upper lid the fact that the levator palpebrae superioris may be involved should be borne in mind and if this muscle is lacerated an attempt should be made to repair it along with the repair of the skin laceration. In vertical lacerations of either lid, which in-

XUM

volve the lid margin, simple closure of the wound does not suffice because such repair inevitably leads to a notched deformity of the lid. These are best repaired by a procedure known to the carpenter as "halving". In this a small portion of skin on one side of the laceration is removed, and a similar area of conjunctiva on the other side of the wound is removed. The defect is then closed in layers with fine mattress sutures.

Some ocular muscle imbalances, particularly those following illness or trauma constitute emergencies. The most frequent paralysis of a single ocular muscle is that of the external rectus muscle. This may occur as the result of trauma in the region of the petrous portion of the temporal bone or as a result of middle ear infection. It also occurs as the result of hemorrhage into the brain stem. The next most frequent paralysis is that of the superior oblique muscle. This is seen rather frequently as the result of head injury in which there is hemorrhage in the brain stem in the region of the nucleus of the fourth nerve, and also as a result of direct trauma to the upper inner portion of the orbit, involving the pulley of the superior oblique. Fractures through the lower orbital margin may involve the origin of the inferior oblique and this is seen not infrequently as the result of motor accidents. Some of these paralyses will clear up spontaneously in a few months while others will come to operation to get rid of the distressing diplopia which results from the paralysis.

I feel that I should not close this discussion without mentioning a few of the ocular complications of childhood. The most serious of these are congenital glaucoma and retinoblastoma. In congenital glaucoma the cornea will be found to be larger than normal and may be hazy due to edema of the epithelium. Retinoblastoma is a malignant tumor which usually occurs in the very young. The mother may notice that the child does not seem to see well, or she may notice that part or all of the pupil is white. The differential diagnosis lies between retinoblastoma, congenital cataract, and retrolental fibroplasia, the latter being found in premature infants.

The internal strabismus which is seen so often in childhood should be investigated by refraction at an early age as frequently this squint is accommodative in origin and can be partially or fully corrected by the use of glasses. In the event that there is no accommodative element in the squint the family should be prepared for the possibility of a corrective operation. When necessary I prefer to operate upon these children between the ages of four and six. After the age of four the orbit has developed sufficiently to make the operative procedure technically easier and, if the squint is corrected before the age of six when the child starts to school, he will be spared the psychic trauma of having his playmates constantly calling attention to his crossed eyes. Another frequent complication of childhood is congenital impatency of the nasolacrimal duct. This is most often due to a little fibrous membrane covering the lower end of the duct where it enters the nose. The symptoms are tearing of the affected eye with formation of pus in the lacrimal sac. This regurgitates into the conjunctival sac or may be expressed into it by pressure over the lacrimal sac. The cure of this latter condition by passing a probe through the lacrimal sac into the nose is so easy that I feel it should be done when the diagnosis is made. The longer such a procedure is deferred the greater trouble there is in clearing it and it is well known that in chronic lacrimal stenosis with the resultant chronic dacryocystitis that occurs in adults, probing of the lacrimal passages is to no avail and a more extensive operation has to be performed.

THE FALSE POSITIVE SEROLOGIC TEST*

J. W. LOVE, M.D.,
Alexandria, Virginia.

The aim of this presentation is to clarify the subject of the false positive serologic test; to classify the false positive reactions, and to provide a clinical outline for dealing with the intricacies of management of false positive serologic blood and spinal fluid, in an attempt to cure what Stokes so aptly called the "serological jitters".

It is now known and realized that the serological test may be false in a variety of diseases and conditions. These number almost 50 different diseases or conditions, some fairly frequent and some quite rare.

It has been clearly established that the usual serologic tests for syphilis may be temporarily positive as a result of diseases other than syphilis. Reports have indicated that false positive reactions, though relatively infrequent, are of sufficient importance to warrant consideration in order that the unjustified diagnosis of syphilis may be avoided.

One serologic test, be it complement-fixation or flocculation or precipitation, does not make a diagnosis of syphilis. The test is not 100 per cent specific. It is subject to error both human, inherent, and of interpretation. No laboratory test will exclude syphilis. It is only by careful examination and evaluation by the clinician that the true diagnosis of syphilis can be made.

Accumulated evidence indicates that most biologic false positive reactions will be encountered under the following circumstances:

(a) Vaccination for smallpox within the three preceding months, especially with "take".

(b) Certain febrile diseases. The more important of these diseases in this connection are malaria, infectious mononucleosis, severe respiratory tract infection including virus pneumonia and influenza, and mumps. Many other diseases are known to be capable of producing biologic false positive serologic reactions, but are of less importance because of (1) the uncommonness of the disease itself or (2) a small incidence of false positive reactions resulting therefrom. Included in this latter group are typhus fever, leprosy, chancroid, lymphogranuloma venereum, Weil's disease, relapsing fever, ratbite fever, Rocky Mountain spotted fever, disseminated lupus erythematosus, and septicemia.

It has been observed that ordinarily the blood tests do not become positive during the febrile stage of the disease, but rather one or two weeks after the temperature has dropped. Furthermore, the false positive reactions usually subside within three to six weeks, though occasionally they may persist longer. It can be definitely stated that at least 90 per cent of false reactions will have reversed within three months of onset, and in the majority of those remaining the "reagin" titre will be subsiding.

The increasing knowledge of the importance of the quantitative serologic test has made this test very useful in the differentiation of (1) the biologic false positive, (2) the prediction of the eminence of clinical relapse, (3) as a measure of therapy, (4) follow-up of children of syphilitic parents. False positives are frequently transient and of low titre and it is of great importance to measure the titre in the false positive without treatment, and to do this periodically and repeatedly.

It is well to remember that no single titration in connection with the serological test is of prognostic significance or tells anything of the infectious stage of the disease. A titre of 4 Kahn units may be as infectious as one of 500 Kahn units, etc. The titre of the patient's serology is no measure of the patient's own immune processes.

It is felt that a classification of false positive should be of those occurring in the blood and of those occurring in the spinal fluid; and a clinical classification in (1) obvious and (2) obscure false positives.

I. BLOOD

(1) Technical errors
(2) False positive of the new-born
(3) Paradoxical false positive
(4) The general biologic false positive
  (a) Spirochetal diseases
  (b) Virus diseases
  (c) Infectious diseases
  (d) Occasional and rare diseases
  (e) Miscellaneous conditions

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

TABLE I—FALSE POSITIVE SEROLOGY IN A NUMBER OF CONDITIONS

INFECTIOUS DISEASES	VIRUS DISEASES	MISCELLANEOUS CONDITIONS	RARE CONDITIONS	SPIROCHETAL DISEASES
1. Leprosy—70%	1. Vaccinia—25%	1. Malignancy—10-20%	1. Pneumonia (bacillary)	1. Weil's disease less than 1%
2. Malaria—35% (Robinson) 100% at some time in disease	2. Lymphogranuloma venereum—25%	2. Erythema nodosum—7%	2. Fever—from any cause	2. Yaws—100%
3. Infectious mononucleosis—18% (Bernstein)	3. Mumps (rare)	3. Jaundice—2-4%	3. Acute lupus erythematosus	3. Bejel—100%
4. Tularemia—less than 1%		4. Pregnancy—2%	4. Sarcoidosis	4. Pinta—100%
5. Infectious hepatitis (occ)			5. Chicken pox	
			6. Measles	
			7. Virus pneumonia	
			8. Leukemia	
			9. Alcohol, ether, paraldehyde poisoning	
			10. Tetanus antitoxin and toxoid	
			11. Typhoid and other immunizing procedures	
			12. Rat-bite fever (Haverhill fever)	
			13. Menstruation—probably does not occur	
			14. Blood Donation	

1. TECHNICAL ERRORS. These are usually errors due to carelessness of the personnel in the laboratory and range from mislabeled tubes to errors in interpretation. These errors are always correctable. A careful laboratory technique with checks and counterchecks will avoid most of these errors which are usually due to carelessness. If these laboratory errors were eliminated, false positives from this source would disappear.

Example: Mrs. J., aged 44. Premarital serology in one laboratory strongly positive; re-check next day in two laboratories resulted in negative serologies. Examinations one week and one month later negative. Examination one year later negative. Impression: laboratory error in the original laboratory.

2. FALSE POSITIVE OF A NEWBORN. It has been estimated that approximately 14 per cent of the serologies on newborns which are positive are falsely so. These are trans-placental false positives usually occurring in the newborn of the treated mother. It varies considerably with the number of factors in the mother, time and amount of treatment, and the time the blood is drawn from the infant. It is routinely of low titre and is not an indication of syphilis in the newborn. It should be re-checked and quantitated and followed from the eighth week subsequently.

It is felt that the use of the so-called cord Wassermann should be abandoned as it is misleading and has no bearing on the blood of the infant.

Example: Baby B., whose mother was treated from the sixth month of her pregnancy, resulted in a positive serology. At the time of birth the titre was two Kahn units and it had completely reverted to negative in eight weeks. Examinations of the infant never disclosed any evidence of syphilis. Impression: false positive in a newborn baby.

3. PARADOXICAL FALSE POSITIVES. By this designation is meant the positive serology occurring in the well-treated or over-treated individual. Frequently the titre of these bloods is so low that it cannot be measured quantitatively although it may remain qualitatively positive for months and years. These are cases of burnt out syphilis and of well-treated syphilis and the so-called "Wassermann-fast" cases.

Example: D. B., colored male, aged 40. Treated with old arsphenamine, bismuth and mercury in 1926. His blood has a titre varying from no Kahn units to two Kahn units. The spinal fluid has remained negative, as has his physical examinations over these years and it is felt that this is probably a "Wassermann-fast" case with the titre so low as to be insignificant and perhaps the changes are permanent. He has remained under observation and in good health throughout this time.

4. THE GENERAL BIOLOGIC FALSE POSITIVE. It is now known that a few persons have a positive serology without any disease whatsoever. This appears to vary from time to time and on quantitation the titre is quite low, although, conversely, it may be quite high. Frequently if these patients have any type of infection, serum changes occur

which give a positive serology. In addition to this small number of healthy people with false positives, there are a varying number of diseases and conditions which lead to transient false positives. Some spirochetal diseases such as yaws and pinta, since these are due to spirochetes, frequently produce changes which give positive serologies. It is now known that virus diseases, a host of infectious diseases, some drugs, blood donations, etc., will give false positives. As a rule nothing more than repeated quantitatives over a number of weeks is necessary, as the patients do not show evidence of syphilis.

II. SPINAL FLUID

False positive serologies in the spinal fluid have been reported in a number of neurological conditions, brain tumor, encephalitis, and, in addition, malaria and mumps. These are quite rare, especially in their relationship to false positive bloods, and are usually relatively easy to deal with.

Example: White, male, aged 48, false positive spinal fluid in a glioma of the brain, proven by autopsy. Non-syphilitic with positive spinal fluid.

CLINICAL CLASSIFICATION

1. THE OBVIOUS FALSE POSITIVE. This group comprises those individuals who have a single or repeated positive Wassermann in which the diagnosis of syphilis seems not tenable. The jaundiced, those recently vaccinated, those with infectious mononucleosis, are representative of this group. Repetition of the test and adequate follow-up usually makes the diagnosis without question.

Example: White male, aged 27, who returned from the South Pacific and after discontinuing suppressive atabrine, had an attack of malaria. This patient's blood was repeatedly positive, the titre ranging from 2 to 8 Kahn units. When the malaria was controlled, and the patient followed up, the serology became negative and has remained so.

2. THE OBSCURE FALSE POSITIVE. This type of false positive is somewhat more troublesome and is perhaps best illustrated by the biologic false positive in the healthy individual. These persons may have a false positive serology for a long time without any apparent cause. It seems that changes occur in the blood serum of these individuals which give a false positive Wassermann at some time. Frequently the greatest care must be exercised to avoid making a diagnosis of syphilis in these individuals. Extensive examination of the blood with the battery of tests, repeated quantitation of the blood serum, examination of the patient for other diseases, examination of the spinal fluid and examination of the relatives is indicated. Consultation is frequently advisable both for the patient and physician.

Example: J. P., aged 18 years. Reported to have a positive Wassermann in the course of a general physical examination. This was repeated and found to be positive in a titre ranging from 0 to 4 Kahn units. No evidence of syphilis was ever discovered. When any infectious process was present in this patient such as a simple cold with fever, the titre of the blood increased greatly, at one time reaching a titre of 320 Kahn units. Follow-up over several years disclosed that the serology in the blood ranged from 0 to 16 Kahn units and it became apparent that there was some inherent factor in the man's blood serum which gave a false positive serologic test. The tests were persistently lower with a Kolmer icebox Wassermann complement-fixation than with flocculation or precipitation tests, although occasionally the Mazzini would be negative when the other tests were positive. This man was allowed to marry and have a child and to date has remained well and has never shown any evidence of syphilis nor have his wife or baby. Impression: biologic false positive in a non-syphilitic individual.

Discussion: It is imperative that the attendant syphilotherapist use a great deal of tact and care in dealing with these cases. The false diagnosis of syphilis may cause great needless mental anguish and psychic trauma. It is imperative that he treat the patient and not the serology.

Conclusion: A classification of false positive serologies in blood and spinal fluid has been presented, as also some suggestions for the management of these cases.

108 North Washington Street.

DISCUSSION

DR. E. E. BARKSDALE, Washington, D. C.: In opening the discussion of Dr. Love's paper, I would first like to say that this subject is at least the second most important one confronting any doctor in handling the prospective syphilitic patient, if not the first most important one today. The only possible exception that I would make would be the present day role for penicillin in syphilitic therapy.

It has not been many years ago when it was considered that a positive blood test was syphilis and syphilis only. It is unfortunate that we have to learn many things in

medicine through the misery of people. The recent war has certainly opened our eyes in regard to the general biologic false positive. It was soon learned in the beginning of the war that the various routine innoculations, such as for small-pox, tetanus, yellow fever, etc., produced false positive standard tests for syphilis in a large percentage of patients. The statement has been made by eminent investigators that malaria alone would produce a false positive in 100 per cent of the cases if the tests were done often enough.

	Total Bloods	Total Positive	Per Cent Positive	Total S	Per Cent S	Per Cent S of Positive
1 January 1945	832	66	7.9%	42	5.0%	63.6%
15 January 1945	904	80	8.8%	53	5.8%	66.0%
1 January 1946	553	81	14.6%	48	8.7%	59.3%
15 January 1946	527	60	11.4%	45	8.5%	75.0%
Total	2,816	287	10.2%	188	6.7%	65.5%

This Series From U. S. Naval Hospital, Bethesda.

One cannot discuss the biologic false positive tests without first taking into consideration and differentiating between the quantitative and qualitative tests. It cannot be definitely stated that a qualitative test for syphilis has no place in either the diagnosis of syphilis or in the post-treatment follow-up. The only place for the qualitative test at the present time is as a routine screening test in hospitals and in practice. Once one receives a report of a positive qualitative test, it must from that point on be entirely ignored. From then on, in order to obtain any worthwhile information, quantitative tests are necessary. Stokes makes the statement in his textbook that in his opinion a general practitioner is not qualified to interpret quantitative tests for syphilis. I am sorry, but I disagree with Stokes. I have had considerable experience with the general practitioner and it is my opinion that he is qualified to interpret anything in medicine if he sets his mind to it. I am not discussing the syphilitic proven to be so by positive darkfield, but only that patient that presents a positive test for syphilis with no clinical evidence of it. As a general rule, we can say that in all probability true syphilis gives at least a moderately high titre which remains stationary or else increases. As a general rule, the false positive either fluctuates or decreases. In all probability no patient with no clinical evidence of syphilis and only positive serology should be treated until that serology has been followed for at least three months and preferably six. A person with a continuous low titre, if he has syphilis, probably has a burned-out case and in my mind it is questionable if treatment would help him anyway. In following these principles it is, of course, understood in the beginning that the patient has a negative spinal fluid.

I think it is worthwhile to review briefly the history of serology. Both doctors and laymen still speak of the Wassermann test. I do not in any way mean to discredit Wassermann himself, but no one today, however, does a Wassermann test. All the tests of syphilis are modifications of it and, looking at the problem from a pure biologic and scientific viewpoint, there has been no real advance in serology since Wassermann days except for time consuming devices. In my opinion, the present day serology tests of syphilis are probably the most non-specific in all medicine today if the single test is accepted on its face value.

DR. D. C. SMITH, Charlottesville: I notice the Director of the Laboratories of the University of Virginia Hospital in the audience, and this reminds me to make a comment with which I think he will agree; that is, that the term "false positive" should not be used. The test is not false. It has an implication which we do not approve. The laboratory does a certain test and reports the result. The reaction may be positive. It does not mean, necessarily, that the patient has syphilis.

Every human being apparently has a certain amount of "reagin" in his blood. This substance probably is associated in some way with general immunity and is increased in a number of conditions. The most important disease in which this occurs is syphilis, and the increase in this infection is universal. However, the laboratory tests do not always detect small amounts of the "reagin". The test may be negative in early primary syphilis. In a suspicious case of early syphilis the tests should be repeated at weekly intervals for eight weeks. In other words, there can also be "false negatives". Serologic tests for syphilis should be done on all questionable lesions before any form of treatment is administered.

No person should be diagnosed as having latent syphilis until the serological tests have been followed for four to six months and checked by a careful history and clinical examination. Conditions where there is bulk tissue involvement, such as pneumonia and carcinomatosis, may cause positive serologic tests. Most of the positive tests not due to syphilis are transitory and of low titre.

This paper of Dr. Love's is very timely and important. The physician should not lose faith in laboratory tests, but should learn how to interpret them and use them more frequently.

DR. R. D. KIMBROUGH, Richmond: The fact that serologic tests have become more and more sensitive in the past twenty-five years is part of the reason for stressing the importance of this subject at this time. Serologic tests can be made so sensitive that everybody will have a positive, and yet the term *sensitivity* is generally reserved to apply to those with syphilis, while the term *specificity* is generally reserved to apply to differentiating between those with syphilis and those without syphilis. A false positive or a false negative may be termed a non-specific test.

The evaluation of laboratories in this State as a result of the pre-marital examination law has been very helpful and has probably caused many fewer false positives to be reported.

Recent studies in the inoculation of mice and trans-

mitting the infection to rabbits from lymph glands add to the challenge of understanding what happens with regard to infection, immunity, and serology in syphilis. Mice may harbor infective material for months but show no clinical signs and no positive serology, and spirochetes cannot be found by dark field. Apparently they do not transmit this infective material to their offspring.

Recently a couple, married only a few hours, came to the office. The husband said: "My wife has syphilis; she had two blood tests and both showed this, and we were referred to you for treatment." Her history and physical were negative; quantitative serology was positive 1:2, and she had a freshly healed smallpox vaccination of two-and-one-half months. Time and repeated quantitative serology will enable a correct decision. The husband had a sort of practical and prophetic insight in this probable false positive when he said: "I don't think she has it very bad, for we have lived together off and on for a year and a half and I haven't caught it."

Scurvy, Rickets Still Present.

Despite major advances in the field of nutrition, scurvy and rickets still beset many children today, according to an editorial in the May 8 issue of *J.A.M.A.* It states:

"The clinical application of fundamental principles of nutrition is not abreast of increasing knowledge of nutrition. Infants with rickets or scurvy still appear frequently in the pediatric clinics of many of our teaching institutions. Recently a relatively small pediatric service admitted three infants with frank scurvy in as many months.

"The gratitude of the teaching staffs for such teaching material is exceeded only by the embarrassment of rationalizing the occurrence of such cases to the medical student.

"From his earliest days in medical school, the modern student has been taught that prophylactic administration of vitamins C and D should reduce scurvy and rickets to obsolescence.

"Association of scurvy with poverty, malnutrition and lack of medical care is no longer entirely valid. Many recent cases have arisen in families of moderate economic circumstances and have demonstrated optimal gains in length and weight.

"Usually patients have been observed at regular intervals by physicians. Factors other than parental ignorance or economic circumstances must be at fault.

"Almost uniformly these infants have been fed on proprietary preparations which are often represented as 'complete infant foods.'

"Indeed, the rapid gains in length and weight testify to the completeness of these foods—with the exception of vitamins. Because growth is occurring rapidly during infancy, requirements for vitamins must be fully satisfied; growth will cease if these demands are not met.

"As these preparations are usually fed under the direction of a physician, he must assume the responsibility of ascertaining specifically the vitamin content of these preparations in relation to the specific needs of the patient, regardless of the claims of the manufacturer concerning the completeness of the food.

"Reliance on such preparations for appropriate intake of vitamins is unwise since quantities of the product fed from day to day and from patient to patient are highly variable.

"Oliver Wendell Holmes said, 'A pair of substantial mammary glands have the advantage over the two hemispheres of the most learned professor's brain in the art of compounding a nutritive fluid for infants.'

"Perhaps in these days when hypofunction of the postpartum breast is a national phenomenon, refuge in the cerebral hemispheres of the learned physician is necessary. Fortified with adequate knowledge of nutrition, he can eliminate scurvy and rickets from the American scene."

XUM

THE HISTORY—AN IMPORTANT FACTOR IN DIAGNOSIS OF CORONARY THROMBOSIS*

E. L. COPLEY, M.D.,
Richmond, Virginia.

The discovery of coronary thrombosis introduced a new chapter in the study of heart disease. The revival of interest in pathology of the coronary vessels marked the beginning of an era of great discoveries in modern medicine. Heberden had described angina pectoris the chief symptom of coronary insufficiency, and Jenner had reported finding sclerosed coronary vessels at autopsies. This information practically lay dormant until an internist of our day, Herrick, correlated the symptoms and pathology of coronary artery obstruction 150 years later. In two well known papers[1] he convinced the medical world this disease was a distinct entity. Since their publication, an increasing number of physicians are alert to recognize the signs and symptoms of the newly described (but old) type of heart disease and have made great progress in working out its treatment.

There has been subsequently a marked increase in the number of reported deaths. In Virginia, in 1930, the first year separate statistics were kept for the disease, the number of such deaths reported was 126. This number steadily rose to 2100 in 1946—exactly 16 2/3 times as many as for 1930. Several factors no doubt have contributed to this increase. Certainly one of them is improved diagnosis. Others, however, have played their part. More people now reach the age when vascular changes favor thrombosis, resulting in a real increase in its mortality. A part of the increase, however, is not thought to be real. It is believed some deaths due to other causes, such as pulmonary embolus, dissecting aortic aneurism and angina pectoris, are now listed coronary thrombosis.

The diagnosis of coronary thrombosis is of increasing importance, as the mortality among us physicians indicates. An eminent Life Insurance statistician[2], in an elaborate paper, reports the recorded death rate from diseases of the coronary arteries among male physicians to be one and four-fifths that of men of the same age in the general population, i.e., for every 100 males of the same age in the general population who die of coronary artery disease, 180 physicians die. In the study, however, he did not differentiate between coronary thrombosis and coronary insufficiency.

Despite the fact the disease is still on the increase in our profession and also in the public as well, we too frequently find the diagnosis overlooked in many cases or incorrectly made in others. These are compelling reasons for careful evaluation of the evidence for correction of these errors of omission and commission.

Manifestly, it is impossible to discuss in this paper all the factors that enter into a correct diagnosis. I shall review only the chief ones, namely: x-ray studies, electrocardiographic evidence, and the evidence supplied by a thorough history.

The x-ray is of some aid in the diagnosis of calcified coronary vessels. Flouroscopy and x-ray films will also reveal ventricular aneurism—evidence of myocardial infarction. In a study of 80 cases of myocardial infarction at Mt. Sinai Hospital[3], the diagnosis was made on the basis of abnormalities of pulsation of the ventricular heart wall. If a portion of the wall moved outward while the rest of the wall moved inward, it was considered pathognomonic.

Except in hospitals, however, I believe the use of the x-ray to be impracticable for diagnosis of the acute condition. The attacks are usually of sudden onset, and the need of prompt treatment is urgent, and the risk of moving the patient anywhere far outweighs any benefit to be had from finely drawn diagnosis. Whatever the cause of the chest pain, its relief is of the first importance. When the acute emergency is over, it is feasible to obtain needed x-ray evidence, using a good portable machine. More complete x-ray studies can well be made when the patient is well along in recovery. All heart patients in my practice are given routine x-ray examinations, principally to determine the presence of any hypertrophy.

The electrocardiograph is said to be at "its brilliant best" in the diagnosis of coronary thrombosis and myocardial infarction. I believe this

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

impression has lead too many physicians to over-emphasize the value of this apparatus. It is certainly true that the convex elevation of the ST segment in leads I and IV and a concave depression in lead III definitely signify an anterior or apical left ventricular infarction. Also, elevation of the ST segment in lead III and depression of the ST segment in leads I and IV indicate a basal or posterior myocardial infarction. No other condition gives these typical electrocardiographic changes. However, the average case giving them can be diagnosed from the history and bedside findings. It is, of course, gratifying when an ecgm. confirms the diagnosis. The atypical tracings present the chief difficulty, and here reliance must be made on a study of the history and physical examination as well as the ecgm., because many factors produce changes in the ST and T segments. Sprague[4] has listed several dozen such factors other than coronary thrombosis, and has emphasized that they have no significance at all except in the instance of coronary thrombosis. The ecgm., therefore, is not as simple a matter in the diagnosis as a typical tracing would seem to make it. I believe in the majority of cases it is a laboratory procedure of great value, comparable to x-ray films of the chest in lung and mediastinal diseases, or a leukocyte count in infectious conditions. It is believed by many that the value of the ecgm. is over-emphasized and its limitations underestimated.

If care is not taken, therefore, to make use of all criteria available, the diagnosis can be both overlooked and incorrectly made. Recently, an intelligent colored widow with five children described the course of the last illness of her husband by saying he had intense pain in the chest, radiating to the arms, and a cold sweat, followed by shortness of breath. She stated a physician was called and diagnosed the attack as acute indigestion. Bed rest was not advised and the man died while sitting in his front yard. I believe coronary thrombosis was overlooked in this case. On the other hand, I was recently called to see a 70 year old white woman, who had been brought from the country to her daughter's home. A letter from her physician stated she had had an attack of coronary thrombosis and that an ecgm. confirmed the diagnosis. He had advised bed rest for several weeks. However, neither the history I obtained nor an ecgm. I made indicated coronary thrombosis. Cardiologists who treat many more cases no doubt encounter numerous such instances. Obviously, great harm is done when coronary thrombosis is either overlooked or its diagnosis incorrectly made.

In the history of diseases of the coronary vessels, the first symptom to expect is chest pain, plainly anginal in typical cases whether coronary thrombosis with occlusion or coronary insufficiency. The pain is constant, constricting, gripping and has as its primary seat "behind the breast line". It is never sharp, knife-like. It often radiates down the medial aspect of the left arm or to the lower jaw, or down both arms, or to one or both shoulders. It is made worse by work or emotional excitement and is relieved by rest. This history, therefore, is of first importance in considering a diagnosis, as it signifies unmistakable disturbance of the coronary circulation, resulting in ischemia of the myocardium.

Boyd[5] quotes Vaquez's graphic description of typical angina pectoris: "the first attack occurs in the course of apparently perfect health. After the mid-day meal on quickening his pace a little the patient suddenly feels behind the sternum a pain which startles and alarms him. He walks on, but the pain increases steadily. It extends across the upper part of the chest toward the shoulder, especially the left, passes down the arm of the same side, keeping to the inner side of the arm, to the ends of the fingers, especially the ring and little fingers. At the same time there is an indescribable dread, a firm conviction he will die if the agony continues. Mastered by the pain, the patient stops walking and, if by magic, the pain stops also. The intermission may last for several days or weeks or even longer. All seems forgotten when, for the same cause, walking after a meal, the pain reappears with the same symptoms. This time it is more tenacious. The patient no longer tries to master the pain. At each instant he is obliged to stop, assuming an indifferent attitude before a shop window to avoid attracting the attention of passers-by; but his pale and anxious face, the aspect of suffering that changes his expression, the rigidity of his attitude, the care with which he supports his painfully numb left arm with his right hand, all tell the experienced eye that this saunterer so engrossed by his sensations is an unlucky mortal in the grip of an angina."

The history of an attack of chest pain is important in determining whether it is cardiac in origin, and, if so, to label it properly coronary thrombosis or coronary insufficiency. Master[6] and his colleague, in an interesting study, have shown that coronary insufficiency is as distinct an entity as coronary thrombosis. They have emphasized that coronary thrombosis with occlusion is an irreversible process with no direct means of prevention nor treatment other than symptomatic; and that coronary insufficiency is preventable by means of lessened exertion and numerous remedies now familiar to us all. In the recognition of coronary thrombosis, and to differentiate it from coronary insufficiency, it is important to classify the pain as to severity, its duration and gradation. It is longer continued in coronary thrombosis, its position less fixed, and when a distinct palor, drop in blood pressure, low-grade elevation of temperature and leukocytosis follow, the diagnosis is generally coronary thrombosis with occlusion. In such cases, there is also a likelihood of hearing moist rales at lung bases and pericardial friction sounds. An ecgm. is of value in confirming or ruling out this diagnosis.

Sometimes severe chest pains will give only transient changes in the ecgm., no drop in blood pressure or other signs. Such instances, I believe, are coronary insufficiency and should be treated as such, to prevent the development of coronary thrombosis or sudden death. The mild or very mild pain can be diagnosed only on the basis of its history, as there are no ecgm. changes at all, neither fever nor leukocytosis. Such pain usually occurs with increasing frequency on exertion. Both the severe and mild types of pain due to coronary insufficiency can be prevented by keeping the patient within his exercise tolerance. Of distinct value in the diagnosis of coronary insufficiency is the use of nitroglycerine, which gives instant relief.

Pain due to coronary thrombosis may and does occur at any time of the day or night. I have been called as often in the middle of the night as in the day to treat such cases. On the other hand, an attack of coronary insufficiency almost invariably follows exertion. In both conditions, the patient has difficulty in describing his pain. He rather puts his hands across his chest to indicate its site. In coronary thrombosis the patient emphasizes his sense of impending disaster. He states he will die if relief is not given. In coronary insufficiency, he emphasizes chiefly the severity of the pain.

Anginal pain, whether due to coronary thrombosis or coronary insufficiency, manifestly, should be differentiated from that due to extra-cardiac causes, such as arthritis, intercostal neuralgia, gall bladder disease, neuro-circulatory asthenia or to the more serious conditions; such as dissection of aortic aneurism, pulmonary embolism or pericarditis.

Master states half of his office patients suffering from acute coronary diseases are instances of coronary insufficiency and that post-mortem examinations and other data indicate that 25 to 40% of all fatal acute coronary diseases are due to coronary insufficiency. I have several such cases who have definite symptoms of coronary insufficiency and none of the usual signs of coronary thrombosis with occlusion. They are doing well on a restricted regime of exercise and the administration of some of the well-known vaso dilators. A typical case is that of a railroad engineer, seen within the past year. He stated he had had repeated attacks of chest pain which had been diagnosed coronary thrombosis with occlusion. He had taken medication constantly and had carried out strict bed rest for periods of several months during the previous year. On exercising, however, after each period of bed rest, his pain had returned, which greatly alarmed him. Several ecgms. and other laboratory tests did not reveal coronary thrombosis. The diagnosis, therefore, was coronary insufficiency and treatment consisted chiefly of assuring him he did not have the disease. After a month of graded exercise, he was allowed to do light work in the railroad shop, and advised to take nitroglycerine and to rest whenever his pain returned. This man has worked steadily since, with decreasing pain on exertion.

It is unfortunate to diagnose normal hearts coronary artery disease on the basis of ST and T changes due to other causes. It is also a mistake to confuse coronary thrombosis with coronary insufficiency.

There also is the economic aspect to be considered. It makes little difference whether the diagnosis in a man 75 years old is coronary insufficiency or coronary thrombosis so far as his future occupation is concerned. In either case, his life is nearly spent.

It makes considerable difference, however, whether

one 45 years old has coronary thrombosis or coronary insufficiency, and a correct diagnosis is of the greatest importance. If he has coronary thrombosis, he should be confined to bed for several weeks, not allowed to work for several months and faces the prospect of heart failure within ten years at the longest. This rest is unnecessary and costly if the condition be coronary insufficiency; whereas, if one with this condition be kept within his exercise tolerance and given proper medication, he can find some suitable and gainful occupation and may live out his full span of years.

The technical aids the physician has at his disposal in many instances will not establish a definite diagnosis, while information obtainable from a careful history often will. We are on safe ground in placing much confidence in the testimony of a thorough history. Heberden and Herrick had only a study of the patient to guide them when the former described angina pectoris and the latter wrote first on coronary thrombosis.

SUMMARY

The opinion that the diagnosis of coronary thrombosis is overlooked and incorrectly made is expressed. The need of a proper evaluation of the criteria necessary to properly label the condition is stressed. It is pointed out a thorough history of an attack will usually enable one to make a correct diagnosis, and to avoid an incorrect one.

X-ray examination is not believed to be practicable as an immediately applicable means of diagnosis.

Both the value and the limitations of the ecgm. are pointed out. This laboratory procedure is described as one of the aids in diagnosis comparable in value to the roentgenogram in diseases of the lung and to a leukocyte study in infections.

Anginal pain is described and emphasized as being the first and most important factor in the diagnosis of coronary thrombosis. The importance of differentiating coronary thrombosis from coronary insufficiency is also stressed.

REFERENCES

1. Herrick, J. B.: Clinical Features of Obstruction of the Coronary Arteries. *J.A.M.A.* **59**: 1912.
2. Dublin and Speigelman: Longevity and Mortality of American Physicians. *J.A.M.A.* **134**: 1947.
3. Master, A. M., Gubner, R., Dack, S., and Jaffe, H. L.: The Diagnosis of Coronary Occlusion and Myocardial Infarction on Flouroscopic Examination. *Am. Heart. J.* **20**:475-485, 1940.
4. Sprague, H. B.: Normal Electrocardiograms in the Presence of Coronary Disease. *Mod. Concepts Cardiovasc. Dis.* **10**: 1941.
5. Boyd, William: The Pathology of Internal Disease, p. 68. Lea & Febiger.
6. Master, A. M.; Dack, Simon, and Jaffe, H. L.: The Role of Effort, Trauma, Work, and Occupation in the Onset and Subsequent Course of Coronary Artery Obstruction. *M. Ann. D. C.* **79**: (March) 1941.

   Master, A. M.; Dack, Simon; Grishman, Arthur; Field, L. E., and Horn, Henry: Acute Coronary Insufficiency—An Entity—Shock, Hemorrhage and Pulmonary Embolism as Factors in Its Production. *J. Mt. Sinai Hosp.* **14**:8 (May-June) 1947.
7. Master, A. M.: Correspondence. *J.A.M.A.* **135**: No. 3, p. 179.

DISCUSSION

DR. PAUL D. CAMP, Richmond: I sincerely enjoyed Dr. Copley's very good paper and wish to congratulate him on making such a practical presentation to this Society. He mentioned in a proper manner the aid to be had from the more specialized procedures of the X-ray and the electrocardiogram, but he had the courage to put the main emphasis exactly where it belongs, namely, on the history.

The history is an important factor in the diagnosis of coronary thrombosis. It is an even more important factor in the diagnosis of coronary insufficiency, for the history of angina pectoris affords us the only reliable means of arriving at a diagnosis of coronary insufficiency, with the exception of certain electrocardiographic changes. Nearly one-fourth of the cases of angina pectoris will show an apparently normal heart by all methods of examination, including routine physical examination of the heart, blood-pressure determination, X-ray studies, and electrocardiographic studies. Thus we see that in almost one-fourth of the cases of this very important disease of coronary insufficiency we have to rely entirely upon the history in arriving at the final conclusion as to whether or not the patient has angina pectoris. Furthermore, there are no signs of angina pectoris *per se* except the electrocardiographic changes mentioned.

I certainly agree with Dr. Copley that some physicians greatly over-value the electrocardiographic findings and under-estimate the limitations of the electrocardiogram. We are likely to forget the twenty to twenty-five per cent of normal electrocardiograms that we shall find in definite angina pectoris. I am afraid there is a tendency to over-value the mechanized graphic findings and to put too little emphasis on the less dramatic art of history-taking. I consider it the obligation of the doctor himself to obtain the history from all patients in whom he suspects any cardiovascular disease, or if the patient thinks he has cardiovascular disease. I do not believe that such an important proceeding should be delegated to the office help.

Dr. Copley's quotation of Vaquez' description of angina

XUM

pectoris is helpful and interesting. William Heberden's original communications on angina pectoris, entitled "Some Account of a Disorder of the Breast", in July, 1768, is a classic. Some of his cases, however, were complicated by myocardial infarction.

I do not think it is necessary to dwell further on the history obtained from a patient with a real coronary thrombosis with resulting myocardial infarction. May I say just a few words, however, about the clinical entity of angina pectoris resulting from coronary insufficiency. I think we use the term "pain" much too frequently in connection with angina pectoris. Much more often than not the sensation is not one which we ordinarily associate with pain. It is usually a sensation of oppression or congestion, often paroxysmal in character, located in the region of the sternum and brought on by exertion and relieved by rest in a few minutes. Often there will be an associated discomfort in the arms, particularly the left arm, especially if the patient fails to stop, and the oppression in the chest increases. This discomfort in the arm may be described by the patient as a burning or tingling sensation, often as the feeling of compression as if by a tight band, or in certain cases as a feeling that the arm is about to burst from pressure. It is especially important to inquire as to whether or not the discomfort in the arm is always associated with the discomfort in the chest. Occasionally a patient with angina will complain of a burning type of pain, and others will complain of a feeling as though the heart at the time of the attack is too large for the front of the chest. Time will not permit me to go into the numerous variations of description given by patients.

I wish to re-emphasize the important factor of almost a certain amount of exertion, under given conditions, bringing on the sensation of paroxysmal substernal oppression and its relief by rest in a few minutes. Any anginal type of pain lasting over thirty minutes is most likely not simple angina pectoris. It may be due to any number of things. If it is related to the cardiovascular system it is probably a definite coronary thrombosis or the pain of an associated cardiac anxiety neurosis. The latter is more often a precordial ache that lasts for hours at a time.

Finally, I believe it is proper to remind all of us to give careful and serious consideration to the patient who complains of discomfort, even slight, located in the sternal region and brought on by exertion and relieved by rest. Such a history is usually of more serious import than one in which the patient emphasizes the pain.

Floral Eponym (63)

MATTHIOLA

Matthioli, Peter Andreas, 1500-1577

THE name was originally spelled Mathiola and is sometimes spelled Mattioli or Matthiole. He was an Italian doctor and naturalist, born at Siena. He practiced with success in his native city. In 1552, at the invitation of Ferdinand, king of Bohemia, he moved to Prague and became the first physician to the Emperor Maximillian. He described a great number of animals, plants and minerals and wrote among other things a commentary on Dioscorides. He died at Trente of the plague.

Matthiola is a genus of perhaps 50 species widely distributed in the Old World and Australia. They are grown in our gardens under the name of stock or gilliflower The Virginian stocks belong to the genus Malcomia.

PRIMARY SPONTANEOUS PNEUMOTHORAX*

ALFRED L. KRUGER, M.D.,
Norfolk, Virginia.

This report concerns itself with the review of 24 cases of primary spontaneous pneumothorax, observed during a five year period. All of these patients were healthy individuals who were asymptomatic until the time of the occurrence of their spontaneous pneumothorax. At no time during the existence of the collapse nor after complete re-expansion of the lung had occurred, was there ever noted any intrapulmonary pathology.

ETIOLOGY

The etiological relationship of pulmonary tuberculosis to spontaneous pneumothorax has been, and to a certain extent still is an accepted dictum of the older writers. As a pneumothorax is a not infrequent complication of active pulmonary tuberculosis, it has been assumed that a latent tuberculosis is the cause of most of these cases of pneumothorax in the apparently healthy. This assumption is no longer tenable. The more general employment of the tuberculin test has served to show that an antecedent tuberculous infection is not necessary to the occurrence of spontaneous pneumothorax. A positive reaction does not necessarily indicate clinical tuberculosis, but a negative test excludes this diagnosis provided there are none of the conditions that would depress the allergic response. Leggett, Myers and Levine[1], found that over fifty per cent of their cases showed a negative tuberculin test. Ornstein and Lercher[2] found sixty per cent of their cases were negative. Fifty per cent of the cases tested by Cohen and Kinsman[3] were also negative to tuberculin. Ten of the cases in the present series had a tuberculin test done and seven, or seventy per cent, were negative. These percentages are what you would find in routine tuberculin testing of normal groups.

In further support of the non-tuberculous etiology of these cases, Wilson[4], in a study of over a thousand consecutive admissions to a sanatorium, found only one history of a simple spontaneous pneumothorax with complete recovery some time before the onset of pulmonary tuberculosis. The few published series of pneumothorax cases followed for a period of years show that pulmonary tuberculosis rarely follows this condition regardless of the treatment. In a comprehensive review of the literature in 1937, Wilson[4] was able to find only three such cases reported in the literature.

The pathogenesis of primary spontaneous pneumothorax is explained on the basis of one of three mechanisms:

1. Rupture of subpleural emphsematous blebs. These are of frequent occurrence in the apices and in the upper anterior margins of the lung. The theory has been advanced that under conditions of increased thoracic pressure, such as produced by coughing, sneezing or straining, with the glottis closed, air is forced from the bases of the lungs into the upper lobes, thus distending their capacity to the utmost[2]. This forcing of air into the upper lobes occurs more frequently in the muscular male adult and explains the overwhelming preponderance of this condition in males with relatively few cases reported in the female sex. This forceful inflation could easily overdistend and rupture the elastic fibers in the subpleural alveoli in the upper lobe. The apex of the lung lies in the least solid part of the thorax and the inflation and over-distention must be greater than in any other part of the lungs. It is well known that not every case with emphysematous blebs will develop a spontaneous pneumothorax. Many cases are seen at postmortem with large bullous emphysematous blebs with no history of this complication having ever occurred. This accident is attributed to a check-valve mechanism which manifests itself in the form of inspissated exudate or scar tissue in the region of the bleb and the adjacent bronchiole. The air in most blebs can easily be expressed, while in some the reduction of the blebs is most difficult. The occurrence of a check-valve mechanism allows air to enter and little or none to escape, so that the bleb becomes distended and thin-walled and finally ruptures. This continued enlargement and the thinning of the walls in obstructive emphysematous blebs explain the sud-

*Read before the Norfolk County Medical Society, October 20, 1947.

den rupture that may occur at any time irrespective of the factor of exertion.

2. Rupture of interstitial emphysematous blebs. Hamman[5] feels that there is an intimate relationship between mediastinal emphysema and pneumothorax. In about one-third of the cases of mediastinal emphysema there is an associated pneumothorax. It is now well established that mediastinal emphysema is usually the result of rupture of pulmonary alveoli with the production of interstitial emphysema of the lung. This, too, may result from an increase in intrapulmonary pressure, as seen in coughing, sneezing or straining with the glottis closed. Or it may even occur when there is no evidence whatever of the presence of any condition leading to increased alveolar pressure. The fact that spontaneous mediastinal emphysema tends to recur suggests that there may be an inherited defect of tissue quality[5]. The air, once in the interstitial tissues, may dissect not only towards the mediastinum, but also to the subpleural tissues and there form a pleural bleb which may rupture.

3. Congenital cystic disease of lungs. A rupture of one of these cysts may produce spontaneous pneumothorax[6].

INCIDENCE

It is difficult to determine the true incidence of idiopathic spontaneous pneumothorax because it is well recognized that the condition may occur with little or no symptoms. Wilson[4] reported finding five cases without symptoms in routine chest roentgenograms of Yale students during a four year period. O'Loughlin[7], in a review of 24,615 routine chest roentgenograms made upon separation from Army service, found five cases of spontaneous pneumothorax. Leach[8] discovered four cases found on routine x-ray examination. Kjaergaard[9], in 1932, reported on fifty-one cases found in the hospitals of Denmark in a careful search over a twenty year period. He noted that there were more cases uncovered in the last five of the twenty year period than in the first fifteen, and explained this by the improved facilities for diagnosis. Perry[10] has reported eighty-five cases at the London Hospital over a fourteen year period. Blackford[11] cited fifteen cases found in the student body at the University of Virginia. Wilson[4] reported on eleven cases during a five year period among male students at Yale University. Niehaus[12] recently reviewed 24 cases, fourteen of which covered a fifteen year period at the University of Iowa Hospitals and the remaining ten were seen during a nine year period at the Rees-Stealy Clinic in California.

SEX AND AGE

Our experience is similar to all previous investigators who reported the decided predilection for the disease to occur in males[2,3,4,7,8]. All of our patients were of the male sex.

It was also our experience, as has been noted by others, that this condition occurred in a young age group. Twenty-two of the twenty-four cases were in the ages between eighteen and twenty-six years. The oldest patient was thirty years of age.

ONSET AND SYMPTOMS

The onset of symptoms is usually sudden. Fourteen of the patients stated that there was no act of exertion before their attack and they could definitely remember what they were doing when the pneumothorax occurred. Five were sitting, eight were leisurely walking, one developed his chest pain on awakening, and one when he bent over to tie his shoes. The other nine of the patients gave a history of exertion, such as running, dancing or lifting some heavy object at the time of the occurrence of their pneumothorax. In only seven cases the symptoms were sufficiently acute as to cause them to seek medical care within five hours of the onset of their symptoms, whereas in the remainder, because their symptoms were of a milder nature, but had persisted, medical aid was postponed for from seven hours to as long as thirteen days after the onset. Pain is usually the first complaint. It was the initial complaint in all of our patients. It may be felt on the side of the pneumothorax anywhere from the upper abdomen to the shoulder. It may even radiate down the corresponding arm. This was true in two of the cases. Although the pain may be constant, it is usually intensified by deep inspiration. Dyspnea was complained of in fifteen of the cases but in only seven cases was it objectively present when the patient was at rest, and then to only a very slight degree. This completely disappeared after several days of bed-rest. In no case was dyspnea of sufficient severity to warrant the withdrawal of air from the pleural cavity. No case presented cyanosis. Only two of the patients had a

CLINICAL DATA IN 24 CASES OF PRIMARY SPONTANEOUS PNEUMOTHORAX

No.	AGE	SIDE	EXERTION	SYMPTOMS	DEGREE OF COLLAPSE*	TEMP.	WHITE BLOOD COUNT	SED. RATE	TUBERCULIN TEST	PREVIOUS ATTACKS	TIME FOR RE-EXPANSION —DAYS—
1.	18	Right	Sitting in chair	Chest pain	Moderate	Normal				0	20
2.	24	Right	Walking	Pain in chest & shoulder	Slight	Normal	10,000			0	14
3.	23	Left	Walking	Chest pain Slight dyspnea	Marked	Normal				0	50
4.	22	Left	Bending over to tie shoes	Chest pain	Slight	Normal				2	13
5.	22	Right	Sitting	Pain in shoulder & arm	Slight	Normal	8,500	3 mm.	Negative	0	16
6.	18	Right	Sitting	Chest pain Dyspnea	Moderate	Normal	11,100		Negative	0	34
7.	20	Left	Walking	Chest pain Pain in arms	Slight	Normal	8,100			0	19
8.	20	Right	Drilling	Chest pain Dyspnea	Moderate	Normal	5,300			1	20
9.	20	Right	Walking	Chest pain	Slight	Normal				0	9
10.	30	Left	On awakening	Chest pain	Marked	Normal	6,750		Negative	0	28
11.	23	Left	Walking	Chest pain	Slight	Normal				0	16
12.	22	Left	Running	Chest pain	Moderate	Normal	9,450			0	23
13.	22	Right	Running	Chest pain	Slight	Normal				1	14
14.	25	Left	Sitting	Chest pain	Marked	Normal	8,500			0	25
15.	23	Left	Lifting	Chest pain Dyspnea	Marked	Normal				0	23
16.	19	Right	Grinding meat	Chest pain	Moderate	Normal	6,900	8 mm.	Negative	0	6
17.	29	Right	Running	Chest pain Dyspnea	Marked	Normal				0	50
18.	21	Left	Sitting	Chest pain	Slight	Normal	13,500	6 mm.	Negative	0	20
19.	19	Left	Dancing	Chest pain	Slight	Normal	9,600	2 mm.	Positive	0	10
20.	26	Right	Running	Chest pain Dyspnea	Marked	Normal	8,200		Negative	0	57
21.	21	Right	Walking	Chest pain	Marked	Normal	8,400			0	60
22.	24	Right	Running	Pain in chest & shoulder	Marked	Normal	8,000		Positive	0	28
23.	20	Right	Walking	Chest pain Dyspnea	Marked	Normal		5 mm.	Negative	3	21
24.	23	Right	Walking	Pain in chest & shoulder	Slight	Normal	8,900	2 mm.	Positive	0	11

*Slight—5 to 25%, Moderate—30 to 50%, Marked—over 50%.

XUM

minimal dry cough. None of the cases presented any elevation of the temperature.

Blood counts were done on fifteen of the patients. All but two had a white cell count under 10,000 with the highest count being 13,500. All had a polynuclear count of less than 70 per cent. The red cell count and hemoglobin were not affected in any. Sedimentation rates were done on six cases and all were normal.

PHYSICAL EXAMINATION

Contrary to the usual description of shock, increased respirations and rapid pulse, none of the patients in this series presented such a picture when first seen. Even those who presented an almost complete collapse of the lung were very comfortable when at rest. This may be explained on the basis that all were healthy young individuals with no antecedent history of any pulmonary symptoms or pathology. Fourteen of the cases had their pneumothorax on the right and ten were on the left side. This is similar to the experiences of others who report a slightly greater frequency of involvement on the right[2,8,12]. The physical signs are purely those of pneumothorax, namely, hyperresonance, suppression of fremitus, voice and breath sounds, and occasionally, one may find a lag in the movement of the thorax over the involved lung. In those with a minimal pneumothorax we have found the presence of abnormal signs to be best discernible in the infraclavicular area. The variable degree of these signs depends directly upon the degree and extent of collapse present. Similarly, the presence or absence of deviation of the heart and mediastinal structures to the opposite side and depression of the diaphragm, will depend directly on the degree of collapse.

X-RAY FINDINGS

The roentgen ray examination furnishes the exact means of diagnosis, and in determining the degree of pulmonary collapse. However, it must be remembered that the routine procedure in chest roentgenography is to take the film in deep inspiration. Where there is a small mantle-type of collapse present, it may not be obvious in the routine film. A second film should be made, if the diagnosis is suspected, in deep expiration which will cause the lung to deflate and emphasize more clearly the outline of the visceral pleura.

In ten of the cases the collapse was considered to be small (less than 25 per cent), five had a moderate collapse (between 25 and 50 per cent) and nine cases presented a pneumothorax greater than fifty per cent. In none of them were there any adhesions evident. Ornstein and Lercher[2] noted that only three of their fifty-eight patients showed x-ray evidence of adhesions, and therefore felt that this was another factor against a tuberculous etiology. All three cases with adhesions developed tuberculosis about two years later.

Several of the cases developed a minimal effusion which was only noted on x-ray as obliterating the costo-phrenic angle. All promptly reabsorbed spontaneously. Twenty-five per cent of Cohen and Kinsman's[3] series also showed a tiny pleural effusion. Ornstein and Lercher[2] found 38 per cent of their cases to have a similar degree of effusion, which also spontaneously absorbed. They felt that this was no indication of an underlying tuberculous pulmonary condition.

TIME FOR RE-EXPANSION

The re-expansion of the lung depends chiefly on the closure of the pleural opening and on the degree of collapse. Fortunately, most ruptures of blebs produce small openings in the visceral pleura which rapidly close. Nineteen of the cases herein reported had completely re-expanded in from one to four weeks. The remaining five cases required from thirty-four to sixty days for complete re-expansion, and these had an initial collapse of eighty to ninety per cent.

PROGNOSIS

The prognosis in spontaneous pneumothorax is almost uniformly excellent. Tuberculosis as a sequel to spontaneous pneumothorax is extremely rare, certainly of no greater occurrence than in the normal population. Recurrences are not infrequent, however. Wilson[4] reported twenty per cent, and Ornstein and Lercher[2] thirty per cent. One of the patients in this series was observed for a period of fourteen months. During this time, he had four recurrent attacks on the right side and three attacks on the left side and on one occasion had a simultaneous bilateral pneumothorax. On the latter occasion, the extent of the pneumothorax was approximately fifteen per cent on each side, and except for mild chest pain, he had no other symptoms, and was in no respiratory distress while at rest. The addi-

XUM

tional complication of a hemothorax associated with a spontaneous pneumothorax is quite rare. Hartzell[13], in 1942, in an excellent review of the subject, found only forty cases in the literature and added three of his own. Fatal hemorrhage in spontaneous pneumothorax is even more rare. Helig and Schmidt[14], in 1947, were able to find only thirteen such instances on record that were confirmed by necropsy, and added one of their own. The apparent cause for the hemorrhage is a torn vascular adhesion.

DIFFERENTIAL DIAGNOSIS

The presence of an underlying pulmonary lesion as the etiological agent responsible for the occurrence of a spontaneous pneumothorax can usually be determined by the clinical history and by x-ray. It may, occasionally, be difficult to rule out, at the onset, an underlying tuberculous lesion because of the inability to completely visualize the entire lung field. The presence of fever, an elevated sedimentation rate and a pleural effusion of more than minimal extent should make one strongly suspect a tuberculous etiology. Careful observation by weekly fluoroscopic study during the period of re-expansion is essential. Should a lesion suspicious of being tuberculous be found in the lung during the process of re-expansion, the desirability of maintaining the pneumothorax should be definitely considered. After the lung has completely re-expanded, it is important that an x-ray be taken to make more certain that the lung fields are clear. Finally, the tuberculin test is most useful in promptly eliminating the suspicion of tuberculosis.

Coronary thrombosis may well be confused with this entity, especially when the pneumothorax occurs on the left side with the pain radiating to the left shoulder and down the left arm. This was noted in two of the cases. Horine[15] reported on three cases whose chief complaints were referred to their hearts.

Steigmann and Singer[16] and Hadley[17] have reported cases of spontaneous pneumothorax whose symptoms simulated a perforated peptic ulcer.

TREATMENT

The immediate treatment of spontaneous pneumothorax will depend on the degree of collapse and on the severity of the symptoms. Where there is a partial pneumothorax with no, or slight, respiratory embarrassment, simple bed-rest with mild sedation for restlessness or pain is all that is necessary. Rest in bed for one or two weeks with gradual resumption of activities will be sufficient for these cases. This regime was successfully used in all of the patients in this series. Violent or strenuous activities should be discouraged.

An extreme collapse of the lung associated with marked dyspnea at rest calls for complete bed-rest, morphine or codeine for pain and removal of air. This should, if possible, be done with a pneumothorax apparatus, if available, so that only sufficient air should be removed to relieve distress without increasing the intrapleural negative pressure as this will only serve to keep open the pleural perforation.

In cases of recurrent spontaneous pneumothorax, it has been found that the creation of a sterile pleural exudate with the object of obliterating the pleural space has been most successful. Various substances have been injected into the pleural space for the purpose of creating a chemical pleuritis. Hypertonic glucose, hypertonic saline solution, Gomenol, iodized oil and sterile mineral oil have all had their advocates. The intrapleural injection of 10 cc. of sterile mineral oil will usually suffice to cause a pleuritis with an effusion. When the lung completely re-expands, an obliteration of the pleural space can usually be anticipated. This procedure was done on the one case of bilateral, recurrent spontaneous pneumothorax included in this series. He was followed for one year after the treatment and had no recurrences during that time. Niehaus[12] treated two of his cases in this manner and successfully obliterated their pleural space.

Tension pneumothorax (none of the present series were of this type) results when the communition between the lung and the pleura acts as a one way valve. Air can enter the pleural cavity during inspiration but its escape is prevented during expiration, so that the pneumothorax tends to increase in size and tension. As a result, the patient's dyspnea progressively increases. The majority of these patients will get well under conservative treatment, for, as the intrapleural pressure is raised, the valve-like tear will usually close. The removal of sufficient air for relief of dyspnea may become an emergency measure, but, again, just enough air should be removed for some relief. Creation of a

markedly negative pressure should be strictly avoided during the first few days, lest with each inspiration the air will again escape from the lung through the fistula. When the fistula remains closed for a few days, it may become obliterated and thus promote a spontaneous cure of the pneumothorax. On the other hand, the fistula may not close and air will rapidly refill the pleural space with increase in dyspnea in spite of repeated air aspirations. In these cases a small catheter will have to be inserted through a trocar into the pleural space with an under-water attachment. The site best adapted for this is the second anterior interspace, as, during the process of re-expansion, the base of the lung usually expands first.

In some instances, the fistula will not close spontaneously, and will have to be closed artificially. In these cases where the broncho-pleural opening persists, a state of chronic pneumothorax exists. Thoracoscopy is valuable when the lung is maintained partly expanded by strands of pleural adhesions. It has been shown that in this type of case, the tear may be kept open by the strands of adhesions[18]. Cauterization of the adhesions will bring about complete collapse of the lung and thus closure of the fistula. When no adhesions are seen, or when the endoscopic treatment has not been successful, the creation of a chemical pleuritis may be effective. Hennell and Steinberg[19] cured five cases of chronic pneumothorax by this method.

CONCLUSIONS

1. Primary spontaneous pneumothorax may be defined as a pneumothorax occurring in previously healthy individuals, usually characterized by an afebrile benign course with complete recovery in a few weeks.

2. The concensus of opinion regarding the etiology of primary spontaneous pneumothorax is that it results from a rupture of a subpleural vesicle or bleb.

3. The re-expanded lung shows no evidence of any disease process.

4. Tuberculin tests are positive in no greater percentage than in the normal population.

5. In the majority of cases, there was no history of physical exertion preceding the attack.

6. The prognosis in the uncomplicated cases of simple spontaneous pneumothorax is excellent and recovery complete. The production of a chemical pleuritis for recurrent attacks of simple spontaneous pneumothorax is usually effective in obliterating the pleural space.

BIBLIOGRAPHY

1. Leggett, E. A., Myers, J. A., and Levine, I.: Spontaneous Pneumothorax—31 Cases. *Am. Rev. Tuberc.* **29**:348-369, 1934.
2. Ornstein, G., and Lercher, L.: Spontaneous Pneumothorax in Apparently Healthy Individuals. *Quart. Bull., Sea View Hosp.* **7**:149-187, 1942.
3. Cohen, S., and Kinsman, J. M.: Non-Traumatic Spontaneous Pneumothorax Among Military Personnel. *New Eng. J. of Med.* **235**:461-467, September 26, 1946.
4. Wilson, J. L.: Spontaneous Pneumothorax. *International Clinics* **1**:157-175, March, 1937.
5. Hamman, L.: Mediastinal Emphysema. *J.A.M.A.* **128**:1-6, May 5, 1945.
6. Schenck, S. G.: Congenital Cystic Disease of Lungs—Clinicopathological Study. *Am. J. of Roentgenol.* **35**:604-629, 1936.
7. O'Loughlin, B. J.: A Study of 24,615 Separation Chest Roentgenograms. *Radiology* **48**:389-391, April, 1947.
8. Leach, J. E.: Pneumothorax in Young Adult Males. *Arch. Int. Med.* **76**:264-268, 1945.
9. Kjaergaard, H.: Spontaneous Pneumothorax in the Apparently Healthy. *Acta. Med. Scand. Sup.* **43**: 1-159, 1932.
10. Perry, K. M. A.: On Spontaneous Pneumothorax. *Quart. J. Med.* **8**:1-21, 1939.
11. Blackford, S.: Spontaneous Pneumothorax in College Students. *J.A.M.A.* **113**:1-8, August 26, 1939.
12. Niehaus, R. F.: Simple Spontaneous Pneumothorax in Apparently Healthy Individuals. *Am. J. of Roentgenol.* **57**:12-27, January, 1947.
13. Hartzell, H. C.: Spontaneous Hemopneumothorax. *Ann. Int. Med.* **17**:49-510, 1942.
14. Helwig, F. C., and Schmidt, E. C. H.: Fatal Spontaneous Hemopneumothorax—Review of the Literature and Report of a Case. *Ann. Int. Med.* **26**:608-617, 1947.
15. Horine, E. F.: Heart Symptoms Caused by Spontaneous Pneumothorax in Persons Otherwise Normal. *South. Med. Jour.* **31**:1253-1255, December, 1938.
16. Steigmann, F., and Singer, H. A.: Spontaneous Pneumothorax Simulating Acute Abdominal Affections. *Am. J. Med. Sci.* **192**:67-72, July, 1936.
17. Hadley, H. G.: Recurrent Spontaneous Pneumothorax. *Dis. Chest* **7**:166-172, May, 1941.
18. Brunner, A.: Treatment of So-called Idiopathic Spontaneous Pneumothorax. *Schweiz. Med. Wchnschr,* **71**:1210-1212, October 18, 1941.
19. Hennell, H., and Steinberg, M. F.: Tense Pneumothorax. *Arch. Int. Med.* **63**:648-663, April, 1939.

835 Wainwright Building.

PENICILLIN IN CARDIOVASCULAR SYPHILIS*

RENO R. PORTER, M. D.
Attending Physician, Veterans Administration Hospital and Associate in Medicine,
Medical College of Virginia,
Richmond, Virginia.

Up until recently, the treatment of cardiovascular syphilis was well established. Uncomplicated aortitis was treated with a preliminary course of bismuth and iodides and then the cautious administration of arsenicals. Aortitis complicated by coronary osteal stenosis or congestive failure were present, specific treatment consisted only of bismuth and iodides.

With the advent of penicillin, the possibility of its use in cardiovascular syphilis has been considered but so far the reports in the literature are meagre and have been conflicting. For example, Dolkart and Schweinlein[1], in a preliminary report in 1945, presented two cases of syphilitic aortitis with aortic insufficiency in which penicillin therapy had to be stopped because of untoward reactions. Russek, Cutler, Fromer, and Zohman[2], on the other hand, reported no serious reactions in 15 consecutive cases of syphilitic aortitis, including four with aneurysm, treated with penicillin.

TABLE I

PATIENT	AGE	SEX	RACE	DIAGNOSIS	PRELIMINARY TREATMENT	PENICILLIN TREATMENT	REACTIONS	RESULTS (SYMPTOMATIC)
E. L.	54	M	C	Aortitis, Aortic insufficiency, Congestive failure,	KI and Bi for two weeks	40,000 units q. 3 h. x 60, repeated three weeks later	Iodide rash, increasing congestive failure two weeks after starting first course of penicillin which cleared rapidly on bed rest	Improved
M. M.	49	M	W	Aortitis, Aneurysm	12 injections of Bi	40,000 units q. 3 h. x 240	None	Improved
J. L.	53	M	C	Aortitis, Aneurysm	KI and Bi for four months	40,000 units q. 3 h. x 240	None	Died of hemorrhage following rupture two days after treatment stopped
T. W.	53	M	C	Aortitis, Aneurysm Aortic insufficiency, Congestive failure, Effort angina	KI and Bi for two months	50,000 units q. 3 h x 120	Increasing congestive failure two weeks after starting penicillin which cleared rapidly on bed rest	Improved
P. H.	53	M	C	Aortitis, Aneurysm	*5,000 units of penicillin q. 3 h. x 24	*50,000 units q. 3 h x 120	None	Improved
G. P.	56	M	C	Aortitis, Aortic insufficiency, Congestive failure	5,000 units of penicillin q. 3 h. x 24	50,000 units q. 3 h x 120	None	Improved

*According to the treatment schedule outlined in VA Technical Bulletin, dated January 7, 1947.

aneurysm or aortic insufficiency without congestive failure received the same treatment except that full doses of arsenicals were not used. Where

*Read by title at the annual Scientific Session of the American Heart Association, Atlantic City, N. J., June 6-7, 1947.

From the Medical Service, Veterans Administration Hospital, Richmond, Va.

Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

Because the role of penicillin in the treatment of cardiovascular syphilis is still far from determined, it seems worthwhile to report results in six of our recently treated cases, especially in view of their complicated nature and the fact that one came to autopsy.

Table I shows the pertinent data in each of the cases in this series. It will be noted that all of them had complications of aortitis, three of them having aneurysms and three of them having aortic insufficiency with congestive failure. In the cases with congestive failure, as good cardiac compensation as possible was attained with bed rest, digitalis, and diuretics before specific antiluetic therapy was instituted. Preliminary treatment consisted of variable quantities of KI and bismuth in the earlier cases and small doses of penicillin in the later cases treated. All received massive doses of penicillin—from 6,000,000 to 10,000,000 units.

There were no instances of immediate treatment reaction or therapeutic shock. The so-called therapeutic paradox occurred in two of the cases with aortic insufficiency and congestive failure. The congestive failure in both instances had been brought under control prior to treatment, but became considerably worse about two weeks following the institution of penicillin therapy. This increasing failure responded very satisfactorily to more vigorous treatment (rest and diuretics) and did not necessitate discontinuing the penicillin.

It is too soon to judge the therapeutic results in these cases since their clinical course must be observed over a long period of time. Five of the six cases stated that they were improved symptomatically following treatment. Those that had pain from aneurysms said that the pain was less. Those that were having symptoms of congestive failure noted that these were less severe, but, of course, they also had had the usual treatment for congestive failure.

The one death cannot be attributed to penicillin since it resulted from rupture of a large thoracic aneurysm into the left pleural cavity. This aneurysm was tremendous in size and presented through the posterior chest wall, so that its rupture was inevitable. Microscopic examination of the aorta in this case showed evidence of "beginning" healing; that is, the sections did not show as much perivascular cellular infiltration as is usually seen in active syphilitic aortitis.† This, of course, is merely a pathological impression and is not taken to indicate definite therapeutic response to penicillin. The most that can be said is that it is an encouraging finding.

SUMMARY

1. Massive doses of pencillin were given to six cases of cardiovascular syphilis without any instances of therapeutic shock or immediate treatment reaction and with symptomatic improvement in five cases.

2. The therapeutic paradox occurred in two cases which were complicated by aortic insufficiency and congestive failure. However, this responded to more energetic treatment for congestive failure, and did not require discontinuing penicillin.

3. In the one fatality (not attributable to penicillin) there was suggestive evidence of therapeutic response.

4. Penicillin appears to be without danger in the treatment of all types of cardiovascular syphilis, but a longer follow-up and a larger series will be required before final judgment can be reached regarding its therapeutic effectiveness.

REFERENCES

1. Dolkart, R. E., and Schweinlein, G. X.: The Treatment of Cardiovascular Syphilis with Penicillin. *J.A.M.A.*, **129**:515, 1945.

2. Russek, H. I., Cutler, J. C., Fromer, S. A., and Zohman, B. L.: Treatment of Cardiovascular Syphilis with Penicillin. *Am. Int. Med.*, **25**:957, 1946.

†I am grateful to Dr. Sahyoun of the Pathology Department of the Medical College of Virginia who examined these sections with special staining techniques.

CO-EXISTENCE OF ORGANIC AND PSYCHOSOMATIC DISEASE —CASE REPORT.*

ELIZABETH M. COVER, M.D.,
Luray, Virginia.

The following case has been selected for report because it illustrates, for review, the considerations made for those patients in whom organic and psychosomatic disease co-exist.

The case is of a 68 years old white woman, first seen in February of 1947, at which time she presented herself for examination regarding a chronic leukorrhea which, with increasing frequency, showed blood tinging.

Relevant history included that of radium therapy for uterine bleeding fifteen years prior to the date of this examination. Following this treatment, an offensive vaginal discharge developed, which contained old blood. The patient consulted her physician, who advised her that such discharge was to be expected, and that it would subside in due course of time without treatment. It did. Within the year, however, the patient noticed that upon straining, as in lifting, she experienced sharp pain which was followed by the forceful expulsion of purulent discharge containing fresh blood. She noticed, also, that at such times a mass presented at the entroitus. She consulted her physician, who advised the use of cleansing and antiseptic douches. The patient did not return to her physician thereafter, but continued to use douches, and modified the original prescription according to her various sources of lay information.

The patient's general health became impaired. She developed transient and vague sensations of chest discomfort which progressed to assume the character of angina pectoris; there was severe, constricting precordial pain, with radiation into the left shoulder and arm, and these "attacks" were relieved by nitroglycerin administered sublingually. She was diagnosed as having angina pectoris, and placed on a program of restricted activity and avoidance of emotional strain.

For about thirteen years, the patient lived under the conviction, self-formulated, that she had cancer. She interpreted the vaginal discharge as indicating the presence of cancer, and she believed the mass she saw present at the entroitus when she examined herself, was a tumor mass. For about eight years she convinced herself she was without recourse to help, for she believed that her "heart condition" constituted insurmountable risk in anesthesia and surgery. Her life for these years was that of a resigned, fearful invalid.

Examination revealed no evidence of pathology other than that of the pelvis. There was relaxation of the perineum incident to a healed laceration sustained in childbirth. There was moderate cystocele and rectocele. There was second degree descensus. There was moderate vaginitis and cervicitis. What appeared to be but a thin film of tissue occluded the external os of the cervix, and this was bluish in color. The fundus was somewhat larger and softer than usual in a patient of this age group, but it was movable, and there were no adnexal masses or tenderness.

Diagnosis was made of cervical stenosis, with probable pyometra, and of vaginitis and cervicitis of chemical origin, superimposed by secondary invasion by pyogenic organisms.

The patient was advised to restrict her douching to the use of boiled tap water, and to observe gross cleanliness in the procedure. Under this program there was rapid improvement in the vaginitis and cervicitis, and under mild local chemotherapy there was further improvement.

It was with difficulty that the patient's consent for diagnostic curettage was obtained. Under open ether anesthesia, a small sound was introduced through the cervical os, with immediate release of purulent fluid. Cautious dilatation with a small Hegar, locked, released approximately an ounce of this material. Light strokes with a dull edged curette obtained sufficient material for examination. The pathologist's report of examination of this material was "Endometrial polypi, with extensive pyometrium. No evidence of malignancy, but suggest hysterectomy."

The patient's consent for surgery was given with reluctance and with the obvious attitude of resignation to the final eventuality. She was referred to a

*Read before the Northern Virginia Medical Society, December 9, 1947, at Woodstock.

surgeon who had access to associated services, so that investigation of her general condition might be made. This investigation revealed no pathology except that of the pelvis. Under spinal anesthesia, vaginal hysterectomy was performed, and the proper repairs made to restore the structures in support. The patient's course was uneventful. At present, she is engaged in full and normal activity.

SUMMARY

A case record has been presented to review the following considerations:

1. Cervical stenosis, and resulting pyometra, may result from radium therapy;

2. Pyometra, as any other localized, undrained infection, may constitute a source of general and systemic effect;

3. Fear of disease, and fear of knowledge of disease, may alienate a patient from proper medical care, and lead her to harmful, self-medication;

4. The psychogenic manifestations of fear and anxiety may simulate closely the signs and symptoms of orgainic disease;

5. Definitive treatment may eradicate not only the organic disease, but remove, also, the psychological hazard which, itself, is incompatible with good health.

Navy's New Medical Training Program.

The Surgeon General of the Navy has announced the expansion of the Bureau's professional training program for reserve and regular medical officers, which is similar to the recently expanded Army medical training program. The object is to permit more Navy doctors to meet the requirements for certification by the various American Specialty boards, and to encourage the young doctor to intern under the auspices of the Navy. The following are the important points in this program:

Graduates of Class A medical schools who have been accepted for internship by a hospital approved for such training by the Council on Medical Education and Hospitals of the A.M.A. may be commissioned as lieutenants (junior grade), MC, USNR, and permitted to continue their intern training. They will receive all the pay and allowance of the rank while so serving. After completing their internships, the medical officers must remain on active duty for a period of one year. If they meet the professional, physical and moral requirements, they will be given every encouragement to transfer to the regular Navy.

Interns who have completed the one year of obligated service, and who have transferred to the regular Navy, may be considered for residency training on a competitive basis with other officer personnel of the regular Medical Corps.

Resident physicians now in civilian hospitals, or those accepted for approved residency training, are eligible for commissions in the regular Navy. Those so commissioned will be assigned to duty, with full pay and allowances, in the hospital in which they are already a resident, or to which they have been accepted for residency training. Every attempt will be made to permit residents holding commissions in the regular Navy to complete their training in event of an emergency.

The Navy has at the present time 400 approved residencies and fellowships in the various specialties recognized by the American Specialty Boards in Naval and civilian hospitals.

Information concerning any part of the program may be obtained by writing to the Chief of the Bureau of Medicine and Surgery, Navy Department, Washington 25, D. C.

XUM

COUNTRY DOCTOR, 1947*

N. H. WOODING, M.D.,
Halifax, Virginia.

When requested by Dr. Craddock to prepare a paper for this evening I suddenly felt as devoid of scientific material as the newborn infant is of clothing. The topic I selected is not new to our current President, for the only thing that keeps him from being further out in the country than I am is that he lives nearer to Lynchburg. I shall endeavor to portray some of the features of the economic side of medical practice as have been experienced during the past fifteen months, to illustrate the type of practice encountered in the rural portions of Halifax County—painlessly sutured together with medical folklore and superstitution as exists down there.

Halifax County, with an area of 841 square miles, had in 1940 a population of 41,260. There are in this County 13 white and one Negro physicians. Two physicians live at the County Seat, seven in South Boston, five miles away; one is at Turbeville, one at Virgilina two are at Clover and one is at Volens. Of the seven doctors in South Boston, one is an internist, five are general surgeons and only one does not work outside his office and the hospital. Thus we see that Halifax County is rather well supplied with doctors; this means there is scarcely any community which can be considered the territory of any particular doctor and it is doubtful that any one of us can be considered a "family doctor" in respect to any given family. I was told that a short time ago three members of a family were in the South Boston Hospital under the care of three different doctors. Families will change doctors in an illness, frequently without advising the first attendant, and will go to Danville or Lynchburg to see specialists without the regular physician knowing what is happening. This practice, I can't say is a pernicious one, for is it not what we so warmly defend as the "freedom of choice of a physician," which makes it necessary to apply with vigor the therapeutic measures that seem most indicated.

On Saturday afternoon, July 20, 1946, I arrived in Halifax from the Ft. George Meade Separation Center. Seventy-two hours later in a Negro tenement I was sweating over a 14 year old colored primipara. My rehabilitation had been short and abrupt. Allowing ten weeks taken for postgraduate work this spring, I have been in practice 13 months. In this time I have made index cards on 1480 individual patients or family units. Two hundred and sixty of these live within the town of Halifax, 882 come from the surrounding country within ten miles, 226 live at a distance greater than ten miles, and 112 live more than 16 miles away. To the first of November of this year I had made 1092 house calls and had seen 2352 patients at my office. Gross receipts have amounted to $8,963.51 with net income being $4,515.63. My speedometer now reads over 26,000 miles with the present increment being about 250 miles a week.

From the data given in the preceding paragraph it will be noted that about one-third of the work consisted of house calls, with over 20% of the patients living more than ten miles away. Of the 1220 families living outside the corporate limits of Halifax, at least 50% live back from the all-weather roads. These farm outlets vary in length from one-quarter to three miles and in some cases are little better than gullies. During some three months of the year there are many homes that can be reached only on foot.

I might say here that the sicker the patient is, the less insistent is the messenger that you come right away. If the message is that you must come right away and if you are not told that the patient has had an accident, you must not be surprised to see that he or she has been sick for days and may be comfortably resting in bed awaiting your arrival. Almost anything may be encountered in these house calls: maternity cases, insulin shock, heart disease in its various forms, upper respiratory infections, abortions—threatening, complete and incomplete,—arteriovenous aneurysms of the neck, severe hemorrhage from extracted teeth, traumatic effusion of the knee joint, fractures, appendicitis, incarcerated hernia, toxemia of pregnancy with convulsions, abruptio placenta, acute psychotic episodes and nervousness in all its protean forms.

The country doctor is still per necessity an obstetrician. He may seldom see a recent number of *Sur-*

*Read at the meeting of the South Piedmont Medical Society in Lynchburg, November 12, 1947.

gery, Gynecology and Obstetrics, but he sees wet, wriggling new born babies, in cabins and by lamp light. Of 52 deliveries, 49 were in the patients' homes. There were 14 white women, all delivered at home, and 38 colored, three of whom were hospitalized. Of this series, 20 babies were born during the day and 32 at night. This would seem to bear out the observation that more babies are born at night than in the day. Despite two Maternal Welfare Clinics operating in Halifax County and the growing recognition of the public for the need of prenatal care, a good portion of these patients had had no prenatal care at all. This is particularly true among unmarried colored women and of the poor whites. I use no inhalation anesthesia but give demerol to some patients. The patients are encouraged to work with their pains and the results have been encouraging. No operative obstetrics has been undertaken. If progress is not satisfactory, the woman is placed on the back seat of my car and taken to the hospital.

The plan down in Halifax County is to expect anything and to try to be prepared for it. A check of my bag this morning revealed 29 different tablets and capsules, eleven bottles of solutions, including 50% glucose, adrenalin and procaine. There were fifteen ampules, including synkamin, digifolin and aminophyllin. Lilly's speciality group of ophthalmic ointments, penicillin, cough syrup, diarrhea mixture and sedative for alcoholics complete the bag. In the car are carried intravenous fluids and Red Cross plasma. Dispensing medicine is not a particularly desirable practice, but, unless it is done, hours will need elapse in many cases before the patient can get any medicine.

The problems of the country doctor of today are probably easier than ever before; yet time, distance and roads still hamper us. At Halifax Court House two doctors live where once there were three, and in the western part of the County where there were once three doctors there are none at all. This means that those of us who do country work must drive further and more often. In good weather it is not too difficult to attend two labor cases sixteen miles apart the same night but when the snow comes someone will have to wait if this happens very often.

Let us conclude this paper with some of the facts and fancies which exist among the people in regard to therapeutics and the cause of diseases. "Acid" is the big bad wolf of the layman. People have too much of it and it causes all manner of evil, but clinical investigation doesn't reveal the offending acid. Indigestion is complained of as "ulcerated stomach", regardless of the absence of any ulcer history. There seems to be a considerable degree of emotional tension among the general population, perhaps more so among the country people. It is making me wonder if our men in Service did not bring with them into the Army a large part of the emotional illnesses for which we treated them. As to therapeutics, the realm of magic is frequently entered. A woman in labor who experiences cramps in her legs has white strings tied around the knees and ankles. Headache is treated by applying green leaves to the brow, and children wear around their necks various amulets designed to aid teething or to keep away disease. Baby boys are allowed to have long hair because they will not learn to talk if their hair is cut. It is bad luck to have more than one lamp in a room.

I have briefly touched on some of the aspects of a country doctor's life in Halifax County in the present day. We don't have snake handlers nor do our people refuse medical care for their children because of their religious beliefs. Emergency cases can be put in the hospitals, even if it means that the doctor must make the trip himself at 3 A. M.. Making night calls gives you a chance to listen to your radio. There is always some wild life to observe. Opossums frequently scurry across your way at night and you are always looking for the deer you expect to see. The above account, ladies and gentlemen, represents my initiation into rural general practice of medicine.

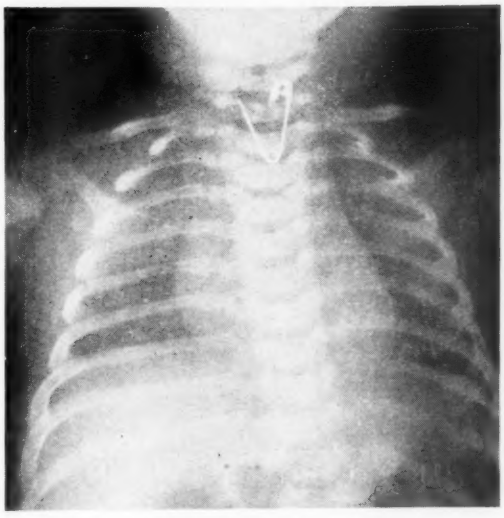
FOREIGN BODY—OPEN SAFETY PIN—IN ESOPHAGUS OF INFANT—REPORT OF UNUSUAL CASE

PORTER P. VINSON, M.D.,
Richmond, Virginia.

Although foreign bodies are frequently encountered in the esophagus and air passages of children they are seldom observed in infants less than nine months of age. The younger the infant the less the likelihood of ingestion or aspiration of a foreign body into the esophagus or respiratory tract. The following case is reported because of the age of the infant and the unusual circumstances associated with the ingestion of the foreign body.

A white infant seven weeks of age was being dressed by his mother when a small open safety pin flipped out of her fingers and dropped into the infant's mouth. The baby choked and coughed and then appeared quite comfortable. Roentgenoscopic examination an hour later revealed an open safety pin in the upper portion of the esophagus (Fig. 1).

Esophagoscopy was done without anesthesia and the foreign body was removed.



Open safety pin in esophagus of child seven weeks old

*Professor of Bronchoscopy, Esophagoscopy, and Gastroscopy, Medical College of Virginia.

Doctors Report Speedy Test for Sickle-Cell Anemia.

A rapid test to demonstrate the sickling process in blood, whereby the red corpuscles acquire a sickled, or crescent-like shape, is reported by Karl Singer, M.D. and Sidney Robin, M.D., in the April 17 issue of *The Journal of the American Medical Association.*

The two doctors are from the Department of Hematologic Research and the Kunstadter Laboratory for Pediatric Research, Michael Reese Hospital, Chicago.

Sickle cell anemia, which results from the sickling phenomenon, is, in the words of the authors, "a great masquerader", manifesting itself in several different ways. Often, according to the article, sickle cell anemia may be confused with perforated ulcers, rheumatic fever, tuberculosis, or skin and nerve diseases. The disease is confined principally to Negroes and the tendency to it is hereditary.

Because of these diagnostic pitfalls, the authors state that "the need for routine examinations for the sickling phenomenon has been emphasized repeatedly", and "particularly in the dramatic surgical conditions a rapid test is urgently needed."

The present methods of examining the sickling process are inadequate, according to the authors, because "they do not provide the required information with sufficient rapidity and reliability."

In the rapid test devised by Drs. Robin and Singer, a drop of the suspected blood is mixed with a drop of cloudy broth culture of non-disease-breeding bacteria and then sealed. Thus, according to the article, "the living organisms consume oxygen rapidly and also give off carbon dioxide, . . . creating the most favorable conditions for the detection of sickling tendencies."

"The mechanism on which the test is based is the rapid reduction of the hemoglobin contained in the corpuscles, which is a necessary requirement for the sickling phenomenon."

XUM

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for May 1948, as compared with the same month in 1947, and for the period of January through May 1948, compared with the same period in 1947, is as follows:

	May 1948	May 1947	Jan.-May 1948	Jan.-May 1947
Typhoid and Paratyphoid	12	9	57	31
Diarrhea and Dysentery	204	448	1,392	1,811
Measles	1,480	1,294	4,195	6,074
Scarlet Fever	77	102	508	760
Diphtheria	16	17	99	125
Poliomyelitis	3	2	10	14
Meningitis	9	8	45	54
Undulant Fever	10	9	39	25
Rocky Mountain Spotted Fever	5	6	5	7
Tularemia	4	2	24	28

The Rabies Problem in Virginia*

It is my privilege to present a subject which properly should be of grave concern to all public health personnel, to private physicians and to laymen. The biting dog or other animal not only presents potentialities of human rabies, with its 100% fatality, but possibilities of tetanus, of gas gangrene, of salmonella and many other serious infections, exist. Added to this picture we have the factors of human suffering both physical and mental, of disfiguring scars, and of economic loss in time and money expended in essential medical care, in public health control efforts and in wage earning and other capacities. Of great importance also is the State and National loss of valued and valuable domestic, wild and pet animal life.

While at the moment the problem of animal rabies may be of little significance in many Virginia areas, the situation tomorrow may be entirely reversed. The informed and experienced public health administrators will recognize the emergency nature of a situation in which one rabid animal is found, and will take all possible precautions to prevent dissemination. We, in Virginia, must be seriously concerned with an accelerating prevalence which has, by laboratory report alone, increased from 108 positive animal heads in 1946, to 162 in 1947, and to 79 during the first five months of 1948. Of these, 214 or 57% of the two year five month total were reported from seven counties in South-Central and South-West Virginia Counties. The alarming feature of this picture lies also in the increasing spread of animal rabies to adjacent and even distant areas. It must be conceded that existing measures of control have been comparatively ineffective although considerable commendation is due the health officers and their personnel for genuine efforts expended.

At this point we may well ask the questions; why are our control measures inadequate and what must be done to provide effective rabies control? Adequate replies to these queries are not simple and many features of control programs are of controversial nature. It must be remembered, however, that certain of the United States and various nations have adequately demonstrated that rabies may be almost totally eliminated. Largely throughout this nation and Canada the situation is authoritatively described as "chaotic". Interlocality, interstate, and international programs must be intelligently constructed and continuously operated before we may expect sustained relief for all involved. In the meantime, the following points may be presented with the assurance of official recognition providing means of practical state and local control:

REASONS FOR PROGRAM FAILURE

1. National, State and local legislative inadequacies in quality and enforcement.
2. Neglect of professional and public education.
3. Divided authority and responsibility.
4. Controversial opinions as to the adequate program.
5. Lack of income to provide for program personnel and facilities.

THE PROPOSED PROGRAM

The development of an authoritative practical program by National agencies which may include the following, subsequent to intensive public education:

1. Legislation sufficient to prevent importation of infected dogs and other animals.
2. Provision for budgetary needs to operate

*Presented to the Annual Conference of Public Health Workers, Friday, June 11, 1948, by Dr. W. A. Browne, Director Communicable Disease Control, of the Virginia State Department of Health.

the proposed program.

3. Recognition that facilities must be provided for the collection and disposal of stray dogs.
4. Placing responsibilities of control in one agency, preferably the health department.
5. Provision for enforced licensing and approved annual vaccination of all dogs.
6. Appointment of animal wardens.
7. Construction and operation of approved dog pounds.
8. Adequate facilities for treatment of human and animal bites.
9. Required reporting of human and animal rabies and of all animal bites and injuries.
10. The appointment of a rabies advisory committee of 5 to 9 members representative of various community organizations. This group should be of material assistance in the development and operation of a balanced control program.

Bibliotheca Obstetrica.

VÖLTER, CHRISTOPHER: Neu eröroffnete Heb-Ammen-Schuhl, oder nutzliche Unterweisung Christlicher Heb-Amman und Wehe-Müttern, wie solche sich vor, in, und nach Geburt bey Schwangern und Gebährenden, auch sonst gebräuchlichen Frauen zu verhalten haben. Sampt beygesetztem Unterricht, wie todte Kinder, die in Mutterleibabgestanden, ohne Gefahr ausszuziehen. Und mit vielen dienlichen Observationibus auss gewisser und wigentlicher Erfahrung erleutert und auffgezeichnet, auff vielfältiges Christlicher Matronen inständiges Begehren endlich in den Truck verfertiget, Mit nutzlichen Kupffern geziehret. Durch Christoph Völltern von Metzingen unter Urach, anjetzo Hochf.Duchl. zu Würt. Leib-Chirurgum. Worbey ein Unterricht von denen immunitaeten und Privilegien, der Hebammen in des Hertzogthumb Württenberg, night weniger, wessen sich diesselbe bey der Noth-oder Gah-Tauff zuverhalten haben. Mit Fürstl. Gnädigster Bewilligung angehencket worden. Stuttgart; In Verlegung Johann Cottfriedt Zubrodt. Gedruckt bey Paulus Trew, Anno 1679. 14 l., 328 p. 19 l., 172 p. 3 l., 13 plates. Page 206 is misnumbered 208. 16.6 cm

——: Neueröffnete hebammen schul . . . J. G. Zubrovs, 1687. 448 p. 16.5 cm. (Miller Library)

Völter was surgeon to the Duke Eberhard Ludwig of Würtemberg. After serving as military surgeon he settled down to practice in his native city of Metzingen and in Stuttgart. Evidently he had considerable experience in obstetrics. His text book is interesting in that it gives a good insight into the state of midwifery in the 17th century, but it is better known today for its illustrations. There are several cuts of the birth stool that had been used for a hundred years in Swabia. One plate depicts a man-midwife conducting a delivery and another shows a Cesarean section. The latter is mentioned by most medical historians as evidence that laparotomies were performed in the 17th century.

XUM

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

District Conferences

Since our last reference in the MONTHLY to conferences for members of the District Council, three more have been held, making a total of seven of these in their respective Congressional Districts. These conferences took place at the Richmond Hotel, Richmond, May 17, for the Third District; at the Ingleside Hotel, Staunton, May 19, for the Seventh District; and at the Hotel Petersburg, Petersburg, May 26, for the Fourth District.

Presiding at these meetings were the Councilors for the Districts: Dr. Guy W. Horsley at Richmond, Dr. Richard P. Bell, Jr., at Staunton, and Dr. James L. Hamner at Petersburg.

Speakers on these programs were:

R. B. Almack, Director, Division of Hospital Survey and Construction, State Department of Health, "The Hospital Construction Program in Virginia".

William Shands Meacham, Director, Virginia Council on Health and Medical Care, "The Virginia Council on Health and Medical Care".

M. Haskins Coleman, Jr., Executive Director, Virginia Hospital Service, "Voluntary Prepayment Medical Care and Hospitalization Plans in Virginia".

Dr. Joseph S. Lawrence, Director of the American Medical Association's Washington Office, "The Washington Listening Post".

Henry S. Johnson, "Our Suggested Program of Public Relations and Some Suggestions for Members of the Council, District Council and Local Medical Societies, as Well as Our Office of Public Relations, in Implementing This Program".

Dr. John T. T. Hundley, Lynchburg, gave a paper at Staunton on "A Reference to the Need of Medical Public Relations", which drew some most favorable comments.

Local arrangements for these conferences were made by the host member of the District Council: Dr. Benjamin W. Rawles, Jr., Richmond; Dr. S. H. Garst, Staunton; and Dr. Herbert C. Jones, Petersburg.

After dinner guest speakers were Dr. Harry J. Warthen, Jr., President-Elect of the Richmond Academy of Medicine, at the Richmond conference, and Dr. Guy R. Fisher, President of the Medical Society of Virginia, at Staunton and Petersburg.

Others participating in the conferences included A. Fred Noyes, Assistant Director of Virginia Hospital Service, at Richmond and Staunton; Dr. Vincent W. Archer, Charlottesville, Councilor for the Eighth District; Dr. George A. Torrence, Hot Springs; Dr. Ned Waddell, Lexington; Dr. N. M. Canter, Harrisonburg; Dr. H. W. Miller, Woodstock; Dr. John H. Guss, Staunton; and Dr. M. B. Jarman, Hot Springs, at the Staunton conference; Dr. W. J. Ozlin, South Hill; Dr. W. S. Lloyd, Goochland; Dr. Ray A. Moore, Farmville; Dr. Ray A. Moore, Jr., Richmond; Dr. Fletcher J. Wright, Petersburg; Dr. William S. Sloan, Petersburg; Dr. A. T. Finch, Chase City; and Dr. Clyde L. Saylor, Hopewell, at the meeting in Petersburg.

These conferences were an outgrowth and follow-up of the State-wide Public Relations Conference held at Richmond last December. Their purpose was to discuss activities of members of the District Council with their respective Medical Societies and counties in an effort to further our public relations program on a local level.

Although a formal pattern for these group conferences was followed in the main, the informal discussions which were provided covered a number of other items pertinent to health and medical care.

Kit of Materials

A Kit of Materials has now been sent to each member of the District Council in all nine Congressional Districts.

These Kits are designed as one important instrument in the public relations program and contain selected excerpts, articles, pamphlets, statistics, etc., on numerous health and medical care problems, indexed according to the following categories:

A. Medical Public Relations.
B. Rural Health.
C. Health Councils.
D. Government-Controlled Medicine.
E. Voluntary Prepayment Medical Care and Hospitalization Plans.
F. Chiropractics and Naturopathy.
G. Publications in Reference to Work of Other State Medical Societies.

It is hoped that the 40 items in the Kit at present will prove valuable and also serve as one source of reference material for members of the District Council and others speaking before lay and professional groups.

It is contemplated that supplements will be added to this Kit as other pertinent items are prepared. Suggestions for improving this are solicited.

Work With the Press

Approximately 30 newspapers are expected to publish "Test Your Medical IQ" beginning Thursday, June 17, thus inaugurating this year's program of regular press features.

A short time thereafter, it is anticipated that "Health Talks" and "It's Your Health", two other columns on health and medical care subjects, will be made available.

Following a second letter to editors in the State and to members of the District Council, a fine response was received. Much of the credit for this is no doubt due to the efforts of doctors who contacted local newspaper officials and interpreted the Society's press program to them.

At present, 46 papers have indicated that they will

participate in the program, with negative replies coming from only five. Many of these weeklies and afternoon dailies plan to use two or three of the features. Thirty requests have been received for "Test Your Medical IQ", 26 for "It's Your Health", and 24 for "Health Talks".

Other papers may be added to the list once the program is underway, and a list of those participating will probably be published at a later date.

Radio Programs

Monday, July 5, is the opening date for "Tell Me Doctor", the Society's radio series which seemed to have been well received last year.

As of this writing, four stations are scheduled to broadcast these programs Monday through Friday for a 24-week period, ending December 17.

The stations and program times are as follows:

WOPI-FM, Bristol, 1:10-1:15 p.m.

WBTM, Danville, 11:30-11:35 a.m.

WLVA, Lynchburg, 1:15-1:20 p.m.

WINC, Winchester, 4:30-4:35 p.m., Monday, Tuesday, Thursday, Friday; 1:55-2:00 p.m., Wednesday.

It is hoped that other stations will soon be added so that a more complete coverage of the State would be made.

Contacts by officials and individual members of the Medical Society with radio officials in regard to programs already arranged or those that might be scheduled could prove valuable. A word of recognition or expression of thanks to those stations giving time on the air would probably be appreciated.

Local Societies might also devise means of calling the attention of the public to "Tell Me Doctor". It is contemplated that press releases on the subject will be made available to newspapers, and perhaps something similar to the waiting room cards used last year will be arranged.

BOOK ANNOUNCEMENTS

Congenital Malformations of the Heart. By HELEN B. TAUSSIG, M.D., Associate Professor of Pediatrics, Johns Hopkins University School of Medicine, and Director of the Children's Cardiac Clinic at the Harriet Lane Home of the Johns Hopkins Hospital. New York, The Commonwealth Fund, 1947. xxxvi-618 pages. Illustrated. Cloth. Price $10.00.

Those physicians, especially the pediatrician, who have been waiting for the publication of Dr. Taussig's book, "Congenital Malformations Of the Heart", can rejoice that it is now available.

After one has read through its pages he cannot but be impressed with the masterful way Dr. Taussig has presented her subject. The monograph is very readable due to her clear concise way in approaching the subject.

Upon presenting her subject on congenital malformations of the heart the various defects are taken in order. With each defect an explanation is presented as to the nature of the malformation, explaining its development from the embryological stage to the present condition.

To clarify the text, illustrations are profusely used. Colored plates, comprising drawings of the pulmonary and arterial circulation of the body in relation to the various cardiac defects, superbly illustrates the case in discussion.

One is impressed upon reading the text of the meticulous care the author has taken in presenting a diagnosis. From the facts presented by the history of the case along with her observations obtained from the use of x-ray and fluoroscope she presents evidence for diagnosis so simplified that one is convinced that the diagnosis of congenital hearts is within his reach should he have access to the various facilities used for diagnosis.

The book is profusely illustrated with pictures of roentgenograms of the heart and autopsy material to better clarify her approach to the diagnosis. Case histories are also used.

There is a certain amount of repetition throughout the book which in the final analysis makes the subject matter clearer and more readily understandable.

Dr. Taussig impresses one that he should be able to know how to recognize those cases of congenital heart disease which are amenable to operation so that the patient will receive whatever relief that is due them.

After reading through the pages one definitely comes to the conclusion that the subject matter is masterfully presented by one who knows her subject through the experience of studying thoroughly a large number of cases.

"Congenital Malformations of the Heart" is a monograph that should be accessible to every physician who will come in contact with patients suffering from congenital heart disease.

L.E.S.

XUM

EDITORIALS

Interneships.

EVERY year in June the newspapers carry lists, columns long, of new doctors and their hospital appointments. These hospitals literally cover the face of the globe, or at least of North America. One wonders why many of these localities were chosen and if some of the choices were not unwise. The choice of an interneship may easily decide the whole professional career of the young doctor.

There are two classes of medical graduates, those who know just what they want to do and those who are quite undecided. If the young doctor plans to practice medicine, it would be good business judgment to choose a hospital in which to serve his interneship that is located in the neighborhood in which he intends to work. In that way he will be making friends before he starts to make a living. If it is not possible to secure an interneship in a hospital that draws its patronage from the region of his choice, the next best thing to do is to interne in a hospital that is well known in that region. If the young doctor plans to teach or if he is one of those *rarae aves,* who has a gift for research, patronage does not enter into the picture. He should choose the hospital that offers the most in his chosen field.

It is in connection with the second category of medical students that the interne committees of our medical schools are missing a golden opportunity to correct one of the most wide spread and serious failings of our present system, i.e., the uneven distribution of medical care. That there is a very uneven distribution of doctors, every one admits. There seems to be an uncontrollable tendency for the young doctor to locate in the great cities where in times of depression he may have to drive a taxicab in order to make a living, while at the same time small communities are clamoring for his services. It is like the uneven distribution of sunshine and rain—everyone talks about it, but no one does any thing about it. Many community hospitals (and when the Hill-Burton bill gets into operation their numbers will greatly increase) have trouble getting internes. If the interne committees would advise the medical graduate to accept these interneships there would be more general practitioners and a better distribution of doctors.

An interneship today is considered a part of the formal training of a doctor, and today there are more such positions than there are persons to fill them. But this has not always been so. In 1903 the 19th man in the graduating class of Johns Hopkins was unable to get an interneship. There was a time still more remote, when a course of study in a medical college was not considered essential. Most of the doctors in Colonial America were doctors only by virtue of their calling, and their only training was an apprenticeship to some established doctor. Some of these instructors, such as Adam Kuhn of Philadelphia and Alexander Humphries of Staunton became famous because of their pupils. The next step in the development of medical education was an apprenticeship, plus a course in a medical school. The young aspirant "read medicine" before taking the two six weeks courses leading to an M.D. degree. When the instruction in the medical colleges became more adequate, the apprenticeship was thought to be unnecessary. This was the low ebb of American medical education. The young graduate had to get his clinical experience as best he could. Now the apprenticeship has been revived in the form of interneships and has been put at the end of the formal medical course. Instead of being an apprentice to one doctor the interne is an apprentice to a group of doctors who constitute the staff of the hospital. The essence of apprenticeship or interneship is practical instruction. One can learn what

to do for patients in the class room, in the laboratories and as a student in the ward, perhaps, but how to get along with patients and manage them in their illnesses can be learned only by responsibility for their care. To gain this without supervision is dangerous and unfair to the public—hence the interneship of today and the apprenticeship of yesterday.

If space permitted we would like to pursue this question further. What internes mean to the hospital, with their fresh stimulating views from the medical school, deserves consideration. Besides a certain amount of service, they bring a stimulus of fresh ideas. Then too the relationship of the interne, the general practitioner and the specialist is a live question. At least one teaching hospital reserves its rotating interneships for the medical graduates who plan to go into general practice. The resident and assistant resident positions go to their graduates who have been in practice for several years. Sir William Osler used to say that the best foundation for a specialist was five years of general practice. Some such plan would make it possible for the would-be specialist to gain such a foundation.

The Medical Library Association.

THE 50th anniversary meeting of the Medical Library Association was held, fittingly enough, in Philadelphia and its opening session was in the College of Physicians, where on October 5th, 1899, Dr. George M. Gould presided at its first annual meeting and Dr. Osler made an address. From the very first the chief purpose of the Association has been to make medical literature available to the widest possible circle. In the very beginning an exchange was started and this has grown to such an extent that a full time manager is employed to see that duplicates of one library member go to the library that most needs the material. For forty-nine years this has been a potent factor in building up medical libraries all over the country. The list of presidents of the Medical Library Association is an impressive one, including as it does the names of George M. Gould, William Osler, James Read Chadwick, Abraham Jacobi, George Dock, John Musser, Francis R. Packard, Fielding R. Garrison, Lewellys Barker, Frederick M. Tice, John Ruhrah, Archibald Malloch and Walter Steiner. Since 1933 the position has wisely been limited to professional librarians, and the office of Honorary Vice-president was created for supporting members.

The remainder of the sessions were held in the various medical and dental schools of Philadelphia, University of Pennsylvania, Temple University, Jefferson Medical College, and the Woman's Medical College. We were addressed by the deans of the various schools and in this way we learned much of the medical history of Philadelphia. The Woman's Medical College of Pennsylvania is the oldest woman's medical college in the world, and it is the only one in North America that is still operating. We were told that the Woman's medical school in London now admits 15 per cent male students and that the one in Bengal also admits mere males. Not so with the Philadelphia school, it is 100 per cent simon pure female, unless busts of Hippocrates and Pasteur in the auditorium constitute demerits. Curiously enough the only 100 per cent male medical college, the Jefferson, is also located in Philadelphia.

Dr. O. H. Perry Pepper, of the University of Pennsylvania, made a delightful address at the banquet on "Verbum sap. sat." discussing in a light post-prandial vein some good and bad medical terms and ending up with advice to the librarians as to how to build an exhibit around a word. He chose as an example the word carotid. He would have the dictionary open so as to show the definition (Gk. *Karotides,* stupor, thought to be caused by compression of these arteries.) Next would be the book in

which is described the ancient experiment of putting goats to sleep by compressing the carotid arteries. Then he would have John Bell's book in which he ridiculed the idea. A more recent investigator has shown that in the goat the entire circulation to the brain comes through the carotids, so the ancient was right. He would show this work. This last investigation was supported by the Grocer's Guild and this should be brought out in the exhibit with possibly the coat of arms of the Guild.

Except at the banquet the medical librarians take their work seriously. In the three day convention they discussed, and we use the word advisedly, cooperation with the American Library Association Task Analysis Study, "Certification", training and recruitment program, scholarships and training for foreign libraries, the problem of exchange material, international exchange, American Book Center and its proposed successor, national library associations activities, international educational reconstruction, microcards, medical library methods, inter-library loans, hospital library service, union list of serials, coordinated abstracting service for clinical medicine, the Unesco Conference on Abstracting of Medical Literature, and Biological Abstracts, beside such routine reports as auditing, secretary's reports, etc. We know of no group that is more efficient, or more willing. It has been our good fortune to visit many medical libraries in various parts of the country and without exception the resources of the library have been placed at our disposal, and we have always received helpful suggestions about the matter in which we were interested. Our hat's off to the medical librarians!

SOCIETIES

Orange County Medical Society.

The doctors of Orange County met in May and reorganized their Society which has been inactive since several doctors entered the Service and two died. Dr. C. Cameron Kress, U. S. Navy retired, now health officer of Orange County, was elected president. Others serving with him are: Dr. J. Dave Middlemas of Orange as vice-president; and Dr. J. C. Bruce of Gordonsville as secretary-treasurer. Meetings are to be held monthly.

Bedford County Medical Society.

At a recent meeting this Society elected its delegate and alternate to the State Society meeting to be held in October, and decided to hold meetings every three months instead of monthly as heretofore. Officers for the current year are: Dr. E. L. Johnson, president; Dr. C. R. Titus, vice-president; and Dr. William V. Rucker, secretary. All are of Bedford.

Princess Anne County Medical Society.

Newly elected officers of this Society are Dr. Ira L. Hancock of Creeds as president, and Dr. Kathryn D. Hill of Virginia Beach as secretary. At its last meeting, the Society elected its delegate and alternate to the meeting of the State Society to be held in October.

Norfolk County Medical Society.

At the meeting of this Society on June 7th, the following officers were installed: President, Dr. H. W. Rogers; president-elect, Dr. Frank P. Smart; vice-president, Dr. B. L. Parrish; secretary, Dr. Walter P. Adams; and treasurer, Dr. J. Franklin Waddill. Delegates and alternates to the State Society meeting were also named.

The Nansemond County Medical Society,

At its meeting on June 4, elected delegate and alternate to the State meeting to be held in Richmond in October. Dr. J. M. Habel, Jr., was re-elected president, and Dr. W. H. Chapman was re-elected secretary-treasurer. Both are of Suffolk. Several new members have been admitted to the Society recently.

The Tazewell County Medical Society

Held a business meeting on May 10th. One of the matters for discussion was that a medical auxiliary be encouraged and it is hoped such a group of the wives of the members will be formed. Delegate and alternate to the Richmond meeting of the State Society were also named.

Dr. H. A. Porter, Boissevain, is president and Dr. W. R. Strader, Richlands, secretary-treasurer

Arlington County Medical Society.

At the meeting of this Society on May 20th at the Washington Golf and Country Club, Dr. Harry M. Robinson, Jr., Assistant Professor of Dermatology of the University of Maryland, School of Medicine, spoke on "Diagnostic Procedures Useful in Skin Diseases."

LEO SOLET
Secretary

The Medical Society of the Valley of Virginia

Held its regular spring meeting in Clifton Forge on May 27th under the presidency of Dr. John H. Guss, Staunton. Dr. John Hortenstine, Winchester, gave a review of The Functions of the Liver, and Dr. Martin Dreyfuss, Clifton Forge, spoke on The Role of the Liver in Blood Coagulation. The guest speaker was Dr. Franklin M. Hanger of Columbia University, New York, who spoke on The Differential Diagnosis of Jaundice with special reference to laboratory tests and their value in the diagnosis of liver disease. Recess was then taken for lunch, following which a brief business session was held at which several members were admitted into the Society. Dr. Carrington Harrison, Winchester, then presented a case report on Chronic Pancreatitis with Jaundice, and Dr. Alex. F. Robertson, Jr., Staunton, read a paper on Newer Concepts of the Etiology and Treatment of Portal Cirrhosis.

The next meeting of this Society will be held at the Woodrow Wilson Rehabilitation Center at Fishersville the last Thursday in September.

Dr. Richard P. Bell, Jr., Staunton, is secretary of this Society.

NEWS

Commencement Time Again.

MEDICAL COLLEGE OF VIRGINIA

Commencement exercises for the Medical College of Virginia began on the evening of June the 5th, with a dance at Hotel Richmond. The baccalaureate sermon was given the following evening by Dr. A. L. Currie at the Second Presbyterian Church, and alumni functions held the interest on Monday, culminating in a banquet at the John Marshall Hotel that evening. A medical assembly, emphasizing diagnosis, was held on the morning of the 8th, followed by the annual get-together luncheon.

Honorable Millard F. Caldwell, Governor of Florida, delivered the commencement address on Tuesday evening and this was followed by the presentation of honors and diplomas and the announcement of hospital appointments, gifts, etc. The honorary degree of Doctor of Letters was conferred upon Dr. Edward Jerald Van Liere, dean of the School of Medicine of the West Virginia University.

The 238 graduates from the several departments of the College represented sixteen states, District of Columbia, and forty-two of the hundred counties in Virginia.

Names of graduates in medicine with hospital appointments follow:

MEDICAL COLLEGE OF VIRGINIA HOSPITAL, Richmond—Drs. Dan Norman Anderson, Rustburg; Joseph McDonald Damron, Huntington, W. Va.; Roy Alvin Edwards, Jr., Huntington, W. Va.; William Hugh Grey, Charlotte, N. C.; Richard Horace Kirkland, Richmond; Nancy Pendleton Law, Princeton, W. Va.; William McConnell Law, Roanoke; Natalie Inge Lum, Petersburg; John Andrew Moore, Hampden-Sydney; Charles Council Parker, Woodland, N. C.; William Henry Pate, Goldsboro, N. C.; John Leake Pitts, Jr., Roanoke; Henry Page Royster, Oxford, N. C.; David Hamilton Smith, Arlington; Ann Hardy Williams, Blackstone; Charles Lee Williams, Richmond.

JOHNSTON-WILLIS HOSPITAL, Richmond — Drs. James Belt Adams, Halifax; Guy Joseph Barrow, Elkins, W. Va.; Avis Katherine Branch, Emporia; Ernest Tinsley Cobb, Ronceverte, W. Va.; Charles Daniel Jordan, Greenville, N. C.; John Jackson Kelly, III, Big Stone Gap.

STUART CIRCLE HOSPITAL, Richmond—Drs. Samuel Benjamin Judy, Parkersburg, W. Va.; Ewing William McPherson, Stonega; Thomas Archer Saunders, South Hill.

DEPAUL HOSPITAL, Norfolk—Dr. Robert Dea Ailsworth, Jr., Deltaville.

NORFOLK GENERAL HOSPITAL, Norfolk—Dr. William Irvin Knight, Jr., Richmond.

ROANOKE CITY HOSPITAL, Roanoke—Dr. Alvin

Penrose Long, Jr., Richmond.

WHEELING GENERAL HOSPITAL, Wheeling, W. Va.—Dr. Regina Margaret Barberia, Morgantown, W. Va.

OHIO VALLEY GENERAL HOSPITAL, Wheeling, W. Va.—Drs. Robert Greco, Morgantown, W. Va.; Leonard Preston Hudnall, Pratt, W. Va.; William Eugene Kincaid, Parkersburg, W. Va.; Michael Judson Moore, Killarney, W. Va.; Robert Earl Richard, Morgantown, W. Va.

CHARLESTON GENERAL HOSPITAL, Charleston, W. Va.— Dr. Elbert Lowell Berry, St. Albans, W. Va.

ST. ELIZABETH'S HOSPITAL, Washington, D. C.—Dr. Elizabeth Rowe Caro, Richmond.

DOCTOR'S HOSPITAL, Washington, D. C.—Dr. Thomas Brock Hardman, Morgantown, W. Va.

GALLINGER MUNICIPAL HOSPITAL, Washington, D. C.—Drs. Edgar Lee Marston, Silver Spring, Md.; Robert Clark Wingfield, Elkins, W. Va.

CITY HOSPITAL, Winston-Salem, N. C.—Dr. Rufus Solomon Gardner, Jr., Hillsville.

ROPER HOSPITAL, Charleston, S. C.—Dr. Henry Armistead Bullock, Jr., Richmond.

STATE OF WISCONSIN GENERAL HOSPITAL, Madison, Wisc.—Drs. Robert Wright Bedinger, Dunnsville; Vernon Lonsdale Cofer, Jr., Norfolk.

BETH ISRAEL HOSPITAL, New York City—Dr. Doris Ada Berlin, Poughkeepsie, N. Y.

BELLEVUE HOSPITAL, FOURTH DIVISION, New York City—Dr. Samuel Poindexter Oast, III, Portsmouth.

JEFFERSON AND HILLMAN HOSPITALS, Birmingham, Ala.—Dr. Arthur King Black, Bowman, S. C.

UNION MEMORIAL HOSPITAL, Baltimore, Md.—Drs. Collinson Pierrepont Edwards Burgwyn, Petersburg; Paul Edwin Gordon, Clarksburg, W. Va.

UNIVERSITY OF MARYLAND HOSPITAL, Baltimore, Md.—Dr. William Albert Niermann, Huntington, W. Va.

MERCY HOSPITAL, Pittsburgh, Pa.—Dr. Phil Lattimer Chapman, Richmond.

THE PENNSYLVANIA HOSPITAL, Philadelphia, Pa.—Dr. Arthur Griffin Meakin, Norfolk.

PHILADELPHIA GENERAL HOSPITAL, Philadelphia, Pa.—Dr. Eric Reiss, New York, N. Y.

ROBERT PACKER HOSPITAL, Sayre, Pa.—Dr. Lucien Wood Roberts, Jr., Richmond.

CRAWFORD W. LONG MEMORIAL HOSPITAL, Altanta, Ga.—Dr. Lee Roy Minor Conn, Blacksville, W. Va.

COLUMBUS CITY HOSPITAL, Columbus, Ga.—Dr. Conley Lee Edwards, Jr., Coeburn.

UNIVERSITY OF GEORGIA HOSPITAL, Augusta, Ga.—Dr. Ezra Goyings, Jr., Richmond.

CINCINNATI GENERAL HOSPITAL, Cincinnati, O.—Dr. Charles William Dennison, Huntington W. Va.

JOHN SEALY HOSPITAL, Galveston, Texas — Dr. John Raymond Freeman, Richmond.

UNIVERSITY OF STOCKHOLM, Stockholm, Sweden —Dr. McChesney Goodall, Jr., Staunton.

BOSTON CITY HOSPITAL, Boston, Mass.—Dr. Charles George Guttas, Virginia Beach.

HENRY FORD HOSPITAL, Detroit, Mich.—Drs. Edward Blair Guy, Norfolk; William Robert Irby, Blackstone.

SOUTHERN BAPTIST HOSPITAL, New Orleans, La.—Dr. Thomas Stacy Lloyd, Jr., Richmond.

CHARITY HOSPITAL OF LOUISIANA, New Orleans, La.—Dr. Harry Glenn Lockhard, Jr., Bedford.

PRESBYTERIAN HOSPITAL, Chicago, Ill.—Dr. William Boyd Looney, Grundy.

BAPTIST MEMORIAL HOSPITAL, Memphis, Tenn.—Dr. Charles William Moorefield, Nathalie.

UNIVERSITY OF OKLAHOMA HOSPITAL, Oklahoma City, Okla.—Dr. John Lambdin Whaley, Victoria.

BROOKE GENERAL HOSPITAL, San Antonio, Texas—Drs. Irvin Walters Cavedo, Jr., Richmond; Crowell Turner Daniel, Jr., Oxford, N. C.; John Newton Gordon, Richmond; Thomas Henry Moseley, Ebony.

OLIVER GENERAL HOSPITAL, Augusta, Ga.—Dr. Albert James Davis, Jr., Danville.

WALTER REED GENERAL HOSPITAL, Washington, D. C.—Dr. Robert William Moseley, Radford.

FITZSIMONS GENERAL HOSPITAL, Denver, Col.—Dr. William Herman Whitmore, Jr., Richmond.

U. S. NAVAL HOSPITAL, Philadelphia, Pa.—Dr. Wilbur Franklin Amonette, III, Radford.

U. S. NAVAL HOSPITAL, Portsmouth, Va.—Dr. George Frederick Elsasser, Jr., Portsmouth.

U. S. NAVAL BASE HOSPITAL, Pensacola, Fla.—Dr. David Walker Mullins, Logan, W. Va.

U. S. MARINE HOSPITAL, Baltimore, Md.—Drs. Carl Harrian Laestar, Chicago, Ill.; Robert Kolbe Williams, Richmond.

U. S. MARINE HOSPITAL, Norfolk, Va.—Drs. Richard Quentin Penick, Clearfield, Penna.; William Lamar Roberson, Hopewell.

Other graduates in medicine are:

Dr. Benjamin Philo Baker, Rustburg

Dr. Frank Sevier Flanary, Dryden

Dr. Robert Wheary Irvin, Jr., Roanoke

Dr. David Ross Rogers, Glade Spring

Dr. Charles Merriwether Zacharias, Richmond

UNIVERSITY OF VIRGINIA

Finals celebration for the Department of Medicine were held in conjunction with those of other departments of the University, and started on June 11th, with an informal buffet luncheon for members of the class of '48. The class party was held that afternoon followed by an informal dance in the Memorial gymnasium. The baccalaureate sermon was given in Cabell Hall on Sunday and that afternoon President and Mrs. Darden were hosts at their home to the graduates, their relatives and friends. Class exercises were held Monday morning and degrees were conferred that afternoon. The final address was by David E. Lilienthal, chairman of the United States Atomic Energy Commission.

The following is list of graduates from the Department of Medicine with hospital appointments:

UNIVERSITY OF VIRGINIA HOSPITAL, Charlottesville—Drs. William Phillips Bass, Wallace; Randolph Graham Bradshaw, Bluefield, W. Va.; Paul Lowell Chodosh, Rahway, N. J.; James Stephen Golden, Pineville, Ky.; Glenn Claire Hall, Jr., Pulaski; Charles Taylor Marrow, Jr., Hopewell; Charles Elford McKay, Jr., Greenville, S. C.; Wallace Clay Nunley, East Rainelle, W. Va.; Kathleen (Cawthon) Strickland, Roanoke; John Cecil Wilkinson, Hillsville.

MEDICAL COLLEGE OF VIRGINIA HOSPITALS, Richmond—Dr. Edward Griffith Bond, Tarboro, N. C.

ROANOKE HOSPITAL, Roanoke, Va.—Dr. Joseph Wolfe Bear, Jr., Roanoke.

DEPAUL HOSPITAL, Norfolk, Va.—Drs. Calvin Ellis Greene, Lynchburg; Beulah Mae Musgrove, Roanoke.

NORFOLK GENERAL HOSPITAL, Norfolk, Va.—Dr. James Nicholas Psimas, Portsmouth.

GREENPOINT HOSPITAL, Brooklyn, N. Y.—Dr. Norman Nathaniell Adler, Brooklyn, N. Y.

BELLEVUE HOSPITAL, New York, N.Y.—Dr. Kenwyn Gordon Nelson, Scarsdale, N. Y.

PRESBYTERIAN HOSPITAL, New York, N. Y.—Dr. James Beall Rodgers, Martinsburg, W. Va.

BAPTIST MEMORIAL HOSPITAL, Memphis, Tenn.—Drs. Harry Paul Austin, Wytheville; Calvin Fort Stubblefield, Jr., Yazoo City, Miss.

BARONESS ERLANGER HOSPITAL, Chattanooga, Tenn.—Dr. Walter Haines Smartt, Chattanooga, Tenn.

JEFFERSON-HILLMAN HOSPITAL, Birmingham, Ala.—Drs. Charles Edwin Butterworth, Jr., Lynchburg; Warren Cavill Evans, Norfolk; Clyde Vaughan Stanley, Jr., Stanleytown; Andrew White Townes, Jr., Orlando, Fla.

EMPLOYEES' HOSPITAL OF TENNESSEE COAL, IRON AND RAILROAD CO., Fairfield, Ala.—Dr. William David Wright, Jackson, Miss.

SALT LAKE GENERAL HOSPITAL, Salt Lake City, Utah—Dr. Malcolm Smith Chase, Hartford, Conn.

UNIVERSITY HOSPITAL, Ann Arbor, Mich.—Dr. William Bryant Crenshaw, Rochester, Minn.

HENRY FORD HOSPITAL, Detroit, Mich.—Dr. John Martin Johnson, Jr., Appalachia.

CHARLESTON GENERAL HOSPITAL, Charleston, W. Va.—Dr. Doff D. Daniel, Jr., Beckley, W. Va.

BAYLOR UNIVERSITY HOSPITAL, Dallas, Texas.—Drs. Robert Vance Dutton, Salisbury, N. C.; Frank McCutchan Ryburn, Jr., South Charleston, W. Va.

JEWISH HOSPITAL, Philadelphia, Pa.—Dr. Harold Seymour Farfel, Portsmouth.

GERMANTOWN DISPENSARY AND HOSPITAL, Philadelphia, Pa.—Dr. John Quackenbush Hatten, Hampton.

COLORADO GENERAL HOSPITAL, Denver, Colo.—Dr. Leonard Oswell Fears, Jr., Lynchburg.

ST. LOUIS CITY HOSPITAL, St. Louis, Mo.—Dr. Edward Watts Gamble, III, Boston, Mass.

UNIVERSITY OF IOWA HOSPITAL, Iowa City, Iowa—Drs. Lucy Goode Garnett, Blacksburg; Powell Leon Perkins, Oakwood.

CINCINNATI GENERAL HOSPITAL, Cincinnati, O.—Drs. Edwin Wayne Gilley, Gate City; John Atkinson Owen, Jr., South Boston.

GARFIELD MEMORIAL HOSPITAL, Washington, D. C.—Dr. Elliott Clarke Haley, Front Royal.

N. C. BAPTIST HOSPITAL, Winston-Salem, N. C.—Dr. Andrew Wentworth Hargroves, Jr., Portsmouth.

DUKE UNIVERSITY HOSPITAL, Durham, N. C.—Dr.

XUM

Arthur Rogers Summerlin, Jr., Laurinburg, N. C.

VIRGINIA MASON CLINIC, Seattle, Wash.— Drs. Robert Gillis Kindred, Charlottesville; Lyle Beuhring McGinnis, Charlottesville.

UNION MEMORIAL HOSPITAL, Baltimore, Md.—Drs. Frederic MacCabe, Jr., Port Washington, N. Y.; Bennie Celia Slaughter, Millerville, Ala.

TOURO INFIRMARY, New Orleans, La.—Dr. Merwin Blanchard Moore, Jr., Huntington, W. Va.

INDIANAPOLIS CITY HOSPITAL, Indianapolis, Ind.— Dr. William C. Morgan, Jr., Welch, W. Va.

MILWAUKEE COUNTY HOSPITAL, Milwaukee, Wis.— Dr. Jack Francis Murray, Milwaukee, Wis.

ST. LUKE'S HOSPITAL, Chicago, Ill.—Dr. Marshall Jerome Snapp, Winchester.

UNIVERSITY OF GEORGIA HOSPITAL, Augusta, Ga.— Dr. Aaron Wayne Sullivan, Beaumont, Miss.

U. S. MARINE HOSPITAL, Staten Island, N. Y.— Drs. Russell Eldridge Blankinship, Jr., Lynchburg; William Burdette Crawford, Jr., Charlottesville.

U. S. PUBLIC HEALTH SERVICE, Detroit, Mich.— Dr. Quinter Milton Burnett, Arlington.

U. S. PUBLIC HEALTH SERVICE, Baltimore, Md.— Dr. Douglas Harman Crockett, Bluefield, W. Va.

U. S. PUBLIC HEALTH SERVICE, Philadelphia, Pa.— Dr. Samuel Wharton Johnson, Jr., Norfolk.

U. S. PUBLIC HEALTH SERVICE, Norfolk, Va.—Dr. William Hampden Sage, III, Charlottesville.

Dr. Sarah Elizabeth Roberts, Charlottesville, will not intern.

The Medical College of Virginia Alumni Association

Held its annual meeting on June the 7th, at which time Dr. Robert J. Wilkinson of Huntington, W. Va., was elected president to succeed Dr. Harry Lee Claud of Washington, D. C., Dr. Alan J Chenery of Washington, D. C., was chosen president-elect, to take office next year. The following vice-presidents were named: Dr. Powell G. Fox (medicine), Raleigh, N. C.; Dr. G. A. C. Jennings (dentistry), Richmond; H. G. Whitehead (pharmacy), Richmond; Mrs. Sabra S. Sadler (nursing), Richmond. Dr. W. Henry Street and Dr. Harvey B. Haag, both of Richmond, were re-elected secretary and treasurer, respectively. New members of the board of trustees are: Dr. Waverly R. Payne, Newport News; Dr. Donald S. Daniel, Richmond; Dr. Alan F. Kreglow, Washington, and Dr. James H. Smith (re-elected), Richmond.

Southern Medical Association.

The 42nd annual meeting of this Association will be held in Miami, Florida, October 25-28, with the Dade County Medical Association as host.

Jefferson Hospital Staff Dinner.

On May 24th, the Staff of the Jefferson Hospital, Roanoke, held a dinner meeting at Hotel Roanoke, with the following guest speakers from Johns Hopkins Hospital, Baltimore: Dr. A. McGehee Harvey, Physician-in-Chief—"Some Recent Advances in the Treatment of Medical Diseases"; Dr. William P. Longmire, Jr., Associate Professor of Surgery—"The Surgical Treatment of Esophageal Abnormalities"; and Dr. William Wallace Scott, Professor of Urology—"The Importance of Hematuria".

Married.

Dr. Edmund Madison Chitwood, Jr., Charlottesville, and Dr. Sarah Elizabeth Watson Roberts, Man, W. Va., June 14th. They are both graduates of the School of Medicine, University of Virginia, Classes of 1947 and 1948, respectively.

University of Virginia News.

The tenth biennial award of the John Horsley Memorial Prize in Medicine was made on April 28, in connection with the Sigma Xi annual initiation of new members. The award consists of a certificate and a prize of $600.00. The prize was founded in 1927 by Dr. J. Shelton Horsley of Richmond in memory of his father. The winner of this year's award was Dr. James Workman Culbertson, class of 1940, for his research on the "Effect of Various Types of Sympathectomy Upon Vasopressor Responses in Hypertensive Patients."

The Annual Meeting of the Westchester Surgical Society was held at the University of Virginia Medical School on April 25. Members of the Surgical Staff presided over a series of presentations by members of the University Hospital and Medical School Staff.

Dr. Otto Loewi, research professor of pharmacology at New York University College of Medicine, gave a series of lectures at the University of Virginia on May 17-19. Dr. Loewi's visit was sponsored by the Richmond Area University Center. Among Dr. Loewi's subjects were "The Transmis-

sion of Nervous Impulses", "The Control of Internal Secretions", and the "Relation of Value and Effect of Works of Fine Art".

Dr. John Riddervold, Chief of Surgery at the hospital in Sauda, Norway, visited the University of Virginia on May 17th and 18th. Dr. Riddervold came to this country recently for a study visit to various Medical Schools in the country.

On May 27th, Alpha Omega Alpha, National Honorary Medical Fraternity, presented as guest speaker Dr. Austin M. Brues of the Argonne National Laboratory. Dr. Brues spoke to the faculty and student body on the subject: "The Toxicity and Medical Usefulness of Radioactive Materials".

Dr. S. A. Vest, Professor of Urology, was guest speaker at a meeting of the American Urological Association meeting in Boston, on May 17. He spoke on the subject, "Use of Caronamide".

Dr. Andrew Hart spoke to the Norfolk County Medical Society on the subject, "Psychomatic Disease", at a meeting on May 26.

On June 3, Dr. Oscar Swineford addressed the Guilford County North Carolina Medical Society on "The Use of Drugs in Allergy", in High Point, N. C.

Dr. Samuel Doswald Sturkie (Univ. of Ga., 1932) has been appointed Associate Professor of Preventive Medicine in the University of Virginia School of Medicine, effective July 1, to fill the vacancy created by the resignation of Dr. Thomas Shepherd Englar. Dr. Sturkie was appointed as health officer in 1934 in Alabama after attending the Johns Hopkins School of Public Health. He was associated with the U. S. Public Health Service, the Joint Health Department and the University of Virginia in a joint survey of the venereal disease situation in Charlottesville and Albemarle County in 1940. After the completion of this work, Dr. Sturkie served as Health Officer with headquarters in Marion, from 1941 to May, 1943, when he assumed his present post as director of health and welfare for the City of Lynchburg.

The American Gynecological Society

Held its seventy-first annual meeting at Williamsburg Inn, Williamsburg, May 24-26, under the presidency of Dr. Emil Novak of Baltimore. The entertainment which had been arranged added to the interest of those attending. Dr. Ludwig Emge of San Francisco was elected president; Dr. Paul Titus of Pittsburgh vice-president; Dr. Norman F. Miller of Ann Arbor was re-elected secretary; and Dr. James R. Miller of Hartford, Conn., was re-elected treasurer. The 1949 meeting will be at Hot Springs, Va.

Dr. Rucker Honored.

At the fiftieth anniversary meeting of the Medical Library Association in Philadelphia, the latter part of May, Dr. M. Pierce Rucker, Richmond, was elected honorary vice-president.

Dr. Asher L. Baker,

Until recently assistant chief of neuropsychiatry at Branch 4, VA Administration, Richmond, has located in Portland, Conn., where he is associate physician at Elmhurst Manor, a private psychiatric hospital.

Dr. Lloyd Moss,

Class of '41, Medical College of Virginia, who has been connected with the house staff of the Medical College of Virginia Hospital, the Children's Hospital in Boston, and McGuire VA Hospital, Richmond, has joined the staff of the Medical Center in Fredericksburg.

Pine Camp Journal Club.

Dr. Carl LaFratta, superintendent of Pine Camp Hospital, Richmond, was recently elected president of its Journal Club, succeeding Dr. William Burton. Dr. Evelyn Stull was re-elected secretary. The Club meets monthly for discussion of diseases of the chest.

Dr. Rudd Again Honored.

Dr. Wortley F. Rudd, dean emeritus of the School of Pharmacy, Medical College of Virginia, received the honorary degree of Doctor of Humanities from the University of Tampa, Florida, at its commencement exercises early in June. Dr. Rudd recently retired after forty-five years of continuous service with the Medical College of Virginia.

Jefferson Medical College Commencement

The one hundred and twenty-fourth annual commencement of The Jefferson Medical College of Philadelphia was held on June 4, at which time the 148 members of the graduating class received the Degree of Doctor of Medicine from Robert P.

XUM

Hooper, President of the Board of Trustees of the College and Dr. Wm. Harvey Perkins, Dean.

Honorary Degrees were conferred upon the following: Doctor of Laws, Paul Gray Hoffman, Economic Cooperation Administrator, in absentia; Doctor of Science, Dr. John H. Gibbon, Professor of Surgery and Clinical Surgery, Emeritus, The Jefferson Medical College and Dr. Le Roy A. Schall, Professor of Otology and Laryngology and Head of the Department, Harvard Medical School (Dr. Schall is an alumnus of The Jefferson Medical College).

The Commencement Address was delivered by Dr. Fred Pierce Corson, Bishop of The Methodist Church, whose topic was "The Instincts of the American Mind".

The graduating class of 1948 presented a portrait of J. Earl Thomas, M. S. M. D., Professor of Physiology, to the College.

Dr. G. Z. Williams,

Richmond, has been appointed by the American Association of Blood Banks as its official representative in Virginia. One of the duties of such a representative is to acquaint hospitals and doctors with the purposes of this Association.

Dr. Hawes Campbell, Jr.,

Has located at 2221 Williamson Road, Roanoke, and is on the Medical staff of the Norfolk and Western Railway.

Dr. James B. Black, Jr.,

Richmond, announces the opening of his office for the practice of internal medicine at 1001 West Franklin Street.

Addition to A.M.A. Building.

Contractors have begun work on a five-floor addition to the A.M.A. headquarters building in Chicago. The job consists of adding five floors in the rear of the building from the third to the eighth floors. It is hoped that by adding approximately 7,000 square feet of space on each floor, much of the congestion, which now exists in the present structure will be relieved. The contract calls for completion of the work by February 1949.

Seal of the Society Wanted!

In the proceedings of the Medical Society of Virginia for 1873, Dr. F. D. Cunningham presented the Society with the original seal of the organization. It is stated "Besides an appropriate device it bears the inscription, *Sigillum Societatis Medicae Virginiae,* * * * *". This seal has been lost and no copy of it is found in the Society's files.

If anyone has a copy or knows where a copy might be obtained, please notify the Society at 1200 East Clay Street, Richmond 19. It is known that this seal was used on Certificates of Membership for some years.

Dr. William Branch Porter,

Richmond, will represent the American Medical Association, the American Board of Internal Medicine and the Medical College of Virginia at meetings of the British Medical Association to be held June 21 through July 2 at Cambridge University. Dr. Porter, who is chief of the department of medicine and professor of medicine at the Medical College of Virginia, with Mrs. Porter sailed June 9 aboard the Queen Mary for England.

Following the meeting, Dr. Porter will be sent by Surgeon-General Bliss of the United States Army on a lecture tour in the United States zone of Germany and Austria. He will lecture and inspect military medical schools in fifteen of the major cities of the two countries. He served throughout the war and is still serving on the civilian consultant staff for General Bliss.

Syphilis Records of Veterans Available.

The Veterans Administration has in its custody the majority of syphilis records of those Army personnel who were treated for this disease while in active service, and in many instances can procure informative data from the syphilis records of other than Army personnel. It is thought that many physicians treating veterans for syphilis as private patients would find a resume of the syphilis record useful since the details of treatment, results of spinal fluid examinations, and blood serologies are incorporated in the records.

Resumes of these records are available to physicians who are treating such veterans provided authorization for the release of the data is given by the veteran. Requests for the resumes accompanied by an authorization for the release of the data, dated and signed by the veteran, should be addressed to the Dermatology and Syphilology Section, Veterans Administration, Munitions Building, Washington 25, D.C. It is most important that the veteran's Service Serial Number and other identifying infor-

mation, such as the date of enlistment, the date of discharge, rank, and organization be included.

Ordinarily, the resumes can be furnished in approximately two weeks from the date of the receipt of the request and signed authorization.

Dr. V. John Murgolo,

Recently of Portsmouth, is now in Washington, D. C., where he is serving a preceptorship with Dr. George B. Trible in Ear, Nose and Throat. He will be there for about two years.

A Versatile Doctor.

Dr. W. O. Bailey, Episcopal layman, and well known eye, ear, nose and throat doctor of Leesburg and Warrenton, delivered the sermon to a large congregation at the Purcellville Baptist Church on May 23. His subject was Attributes of the Bible and, in his discussion, he emphasized the fact that Biblical literature is unmatched in its brevity of language, its conciseness, its simplicity, its poetry and its practical philosophy and revelation through prayer and good work.

Dr. F. Musgrave Howell,

Of Irvington, but formerly of Hopewell, has opened an office in the Professional Building at Kilmarnock, for practice devoted mainly to pediatrics. He still maintains his residence at Irvington.

Dr. E. G. Gill,

Roanoke, was recently elected a member of the Oxford Ophthalmological Congress of London, England.

Roentgenologist at Riverside Hospital.

Dr. Andrew K. Butler will assume his duties as Roentgenologist at Riverside Hospital, Newport News, on August 1st. He is a graduate of Rush Medical College, University of Chicago, in 1942, and has recently been at the University of Michigan Hospital at Ann Arbor, taking special training in radiology.

New Books.

Among the new books recently secured by the Library of the Medical College of Virginia are the following which are available to Virginia doctors under usual library rules:

Bauer—Private enterprise or government in medicine.
Brock—Anatomy of the bronchial tree.
Crile—George Crile: An autobiography.
Dameshek—Morphologic hematology.
Dean—Modern colloids.
Frohman—Brief psychotherapy.
Gates—Human ancestry from a genetic point of view.
Halliday—Psychosocial medicine.
Jacobson—Encyclopedia of chemical reactions.
Jacobs—Synthetic food adjuncts.
Judovich—Segmental neuralgia in painful syndromes.
Leithauser—Early ambulation and related procedures in surgical management.
Moench—Headache.
Obrig—Contact lenses.
Peterson—Man, ether, sun.
Rosen—400 years of a doctors life.
Shwartzman—Hemorrhage.
Stitt, Clough and Branhams—Practical haematology and parasitology. 10th ed.
Trelease—The scientific paper. How to prepare it.
White and Geschickter—Diagnosis in daily practice.
Yearbook of endocrinology, metabolism and nutrition. 1947.

For Sale;

1 S.W. Diathermy #550 and attachments (Liebel-Flarsheim) in excellent condition;

1 S.W. Diathermy #500 and attachments (Liebel-Flarsheim) good condition;

1 Electro-surgical portable Bovie unit;

1 G.E. Model C Quartz Lamp.

This equipment may be seen at the home of the late Dr. J. E. Knight at Warrenton, Va. (*Adv.*)

OBITUARIES

Dr. Robert Richard Lee,

Martinsville, died June 6th. He was seventy-nine years of age and a graduate of the College of Physicians and Surgeons, Baltimore, in 1893. Dr. Lee had practiced in Martinsville for more than half a century, and had been a member of the Medical Society of Virginia for fifty-five years. His wife and a son survive him.

Dr. James Sinkler Irvine,

Evington, died May 30th, at the age of eighty. He was a graduate in medicine from the University of Louisville (Ky.) in 1891. Dr. Irvine had practiced for almost sixty years and since 1910 had been a surgeon for the Southern Railway. He had been a member of the Medical Society of Virginia for fifty-five years. Four children survive him.

XUM

Dr. Eugene Hartwell Luck,

Roanoke, died May 10th. He was sixty-two years of age and a graduate of the Medical College of Virginia in 1912. Dr. Luck had been a member of the Medical Society of Virginia for thirty-two years.

The following resolution was adopted by the Roanoke Academy of Medicine:

By appointment of Dr. Charles M. Irvin, President of the Roanoke Academy of Medicine, this committee acting for the Academy presents the following resolutions.

It is with deep regret that the Academy has learned of the death of Dr. Eugene H. Luck which occurred on May 10, 1948.

We wish to extend to his family our deepest sympathy. He will not only be a great loss to his family but also to the medical profession and the genuine friends he has made, many of whom were members of his profession.

It is resolved that a copy of this be entered upon the minutes of the Roanoke Academy of Medicine and that copies be sent to the family and the State Medical Society.

J. D. WILLIS
M. R. FAVILLE
S. B. CARY
Committee

Dr. Arthur Lee Wilson.

The *Monthly* has just been notified of the death of Dr. Wilson, Lynchburg, on August 5, 1947. He was seventy-three years of age and had been a member of the Medical Society of Virginia for forty-seven years.

Dr. Zenobia G. Gilpin,

Widely known colored physician of Richmond, died June 11th after a short illness, at the age of forty-four. She had been secretary of the St. Philip Post-graduate Clinic of the Medical College of Virginia since its beginning in 1936, was a member of the Board of Directors of the Memorial Guidance Clinic, and served in a number of other medical and civic capacities.

Appreciation of Dr. Gordon.

There is no structure, however strong, that is not affected intrinsically by the loss of one of its firmest supports. Thus, the medical profession of Virginia and this Academy of Medicine in particular suffers a profound loss in the untimely and deeply regrettable death of Dr. Marshall Peterson Gordon, Jr., age 43 years, thus ending a young career before it had fairly started him up the "Urological Ladder" for which his training, character and ability so well equipped him. Had the Grim Reaper spared him, he would doubtless have reached the topmost rung of that "Ladder".

Dr. Gordon was born in Richmond, Virginia, October 26, 1904. His early education was acquired in the Richmond Public Schools and the old Richmond Academy, later he entered the University of Virginia where, after graduating from the Academic School, he entered the School of Medicine, graduating in the class of 1927. The following year he interned at the University of Virginia Hospital and a year later accepted an appointment to the House Staff of Johns Hopkins Hospital and was immediately assigned to service at the Brady Institute (of Urology) going through the residency on that service. Following this he returned to Richmond and began the practice of Urology in 1932.

He enlisted in the Navy during the second World War, was commissioned a Lieutenant and, when discharged twenty-six months later, had risen to the rank of Commander. Dr. Gordon was on the staff of various Richmond Hospitals, and devoted considerable time and effort among the poor at Sheltering Arms and The Medical College.

Dr. Gordon's life was rich in friendships and he had the devotion of his family, which included his wife and two young children. He was kind and unassuming, having the respect and esteem of all his colleagues, as well as the students with whom he was in constant touch. No patients, to our knowledge, ever received more personal attention than those of Dr. Gordon's, being seen either early or late as the case required.

Dr. Gordon was an active member of the Richmond Academy of Medicine, the Medical Society of Virginia, the Virginia Urological, American Urological and the American Medical Associations.

While attending a meeting of the Board of Stewards of Monument Methodist Church May 10, 1948, he became ill, leaving the meeting early, drove home where he died suddenly an hour later from coronary thrombosis.

He will be missed in the profession, missed in those little gatherings about the hospitals in which he served his patients so faithfully, and by hundreds to whom he had endeared himself.

It is requested that this humble tribute to our friend and fellow member be written into the minutes of the Richmond Academy of Medicine and that a copy be given the VIRGINIA MEDICAL MONTHLY for publication.

WEBSTER P. BARNES
AUSTIN I. DODSON
RUDOLPH C. THOMASON
Chairman.